BLM

Stillwater Field Office, Nevada

ENVIRONMENTAL ASSESSMENT

Clan Alpine, Pilot Mountain and Pine Nut Herd Management Areas Gather Plan

DOI-BLM-NV-C010-2010-0019-EA

U.S. Department of the Interior
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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1.0 Purpose of and Need for the Proposed Action

1.1 Introduction

The Clan Alpine, Pilot Mountain, and Pine Nut Herd Management Areas (HMA) gathers are proposed to begin in November, 2010. The Clan Alpine, Pilot Mountain and Pine Nut HMAs are situated within the administrative jurisdiction of the BLM Carson City District Office (CCDO).

The Bureau of Land Management (BLM) proposes to gather approximately 1,111 wild horses, vaccinate approximately 420 mares with a two year fertility control vaccine and remove approximately 224 excess wild horses from the Clan Alpine, Pilot Mountain, and Pine Nut Herd Management Areas (HMAs). Treating 420 mares with a two year fertility control vaccine will assist in maintaining the Appropriate Management Levels (AML) and reduce the number of excess wild horses that would need to be removed in the future. If gather efficiency exceeds 80% additional mares will be treated and released to the HMAs. The BLM intends to return to these HMAs in 2-3 years, if necessary, to gather and retreat the mares to maintain the proposed population control measures.

Approximately 76% (171 horses) of the proposed 224 excess wild horses to be removed have established home ranges well outside of the Pilot Mountain and Pine Nut HMAs. Approximately 104 of these wild horses often congregate on and along highway U.S. 95 near Walker Lake, NV creating a serious public safety hazard. In February - March 2010 at least seven wild horses were killed by vehicle collisions. Approximately 887 wild horses will be released back to the HMAs upon completion of the gather and each HMA will be within their established AML range. An estimated 420 mares (within the total 887 wild horses to be released back into the HMAs) would be vaccinated with Porcine Zona Pellucida (PZP-22),) a two year fertility control vaccine. The utilization of the PZP-22 vaccine will help reduce population growth, and assist in maintaining a population size within the AML.

The Pilot Mountain and Pine Nut HMA gathers are proposed to begin in November, 2010 while the Clan Alpine HMA is proposed to begin in February, 2011.

Table 1: Current population estimates, AML ranges, proposed number of animals to be removed and proposed number to be treated and released back into the HMAs.

HMA	Current Estimate*	AML Range	Proposed Gather**	Horses Removed	Mares Treated	Horses Released
Clan Alpine	724	619-979	580	0	232	580
Pine Nut	148	119-179	118	0	45	118
Pine Nut Outside	67	Outside of HMA	67	67	0	0
Pilot Mt.	302	249-415	242	53	76	189
Pilot Mt. Outside	104	Outside of HMA	104	104	0	0
Total	1,345		1,111	224	420	887

*Population estimates are based on an annual rate of increase of 10% since the last population inventory.

** Gather efficiency expected to be approximately 80% based on terrain, vegetation cover, etc.

This Environmental Assessment (EA) is a site-specific analysis of potential impacts that could result from the implementation of the Proposed and No Action Alternatives. The EA will assist the BLM's Stillwater (SFO) and Sierra Front (SFFO) Field Offices during project planning and ensures compliance with the National Environmental Policy Act (NEPA). Preparation of an EA enables the authorizing officer to determine if significant impacts could result from implementing the Proposed and Alternative Actions.

Should the determination be made that implementation of the Proposed Action would not result in "significant environmental impacts" or "significant environmental impacts beyond those already addressed in the Resource Management Plan/Environmental Impact Statement (RMP/EIS) and Management Framework Plan (MFP)", a Finding of No Significant Impact (FONSI) will be prepared to document that determination, and a Decision Record (DR) will be issued providing the rationale for approving the selected alternative.

1.2 Background

The passage of the Wild Free-Roaming Horses and Burros Act of 1971 (WFRHBA) (Public Law 92-195), Congress found that: "Wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West". The Act states that wild free-roaming wild horses (and burros) are to be considered in the area where presently found, as an integral part of the natural ecosystem of the public lands. The Secretary was ordered to "manage wild free-roaming wild horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands". To achieve this balance, the BLM has established appropriate management levels and manages and controls wild horse population size within HMAs designated for their long-term management. The terms "horse" and "wild horse" (*Equus caballus*) are used synonymously throughout this document.

Table 2: County in which the HMA is located.

HMA Name	County	Acres	Multiple Use Decision Date	AML Range	Distance from Nearest Town
Clan Alpine	Churchill	314,986	1991	619-979	45 miles E. of Fallon
Pine Nuts	Carson/Lyon	98,580	1995	119-179	5 miles E. of Carson city
Pilot Mt.	Mineral	255,040	1993	249-415	10 miles E. of Hawthorne

See appendix D for maps of the 3 HMAs.

The AMLs were established upon completion of an in-depth analysis of habitat suitability, resource monitoring and population inventory data. The upper limit of the AML range is the maximum number of wild horses that can be maintained within an HMA while maintaining a thriving natural ecological balance and multiple use relationship on the public lands. Establishing the AMLs within a population range allows for the periodic removal of excess animals (to the low end) and subsequent population growth (to the maximum level) between removals. Development of the Herd Management Area Plans (HMAP) for all three HMAs included public involvement.

The BLM CCDO has previously prepared gather EAs for the above three HMAs as follows: the Clan Alpine Herd Management Area Plan and Capture Plan and EA #NV-030-93-004, 1993, Clan Alpine Determination of Land Use Plan Conformance and NEPA Adequacy #NV-030-00-006, 2000, Pine Nut Mountain Herd Management Area Capture Plan and EA #NV-030-03-18, 2003, and Pilot Mountain Herd Management Area Final Capture Plan and EA #NV-030-04-20, 2004. These NEPA analyses are incorporated by reference. The analyses of the potential impacts associated with the previous completed gathers are listed in tables 3-6. For a copy of the EAs, visit the BLM web site at: http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa.html

Table 3: Clan Alpine HMA Population inventory and Gather History since 2000, (AML 619-979).

Year	Action	Number of Horses	Number of Mares Treated and released into HMA
2000	Removal	233	96
2005	Pop. inventory	442	
2006	Removal	88	
2007	Pop. inventory	519	

The low population inventory numbers below the low AML resulted from several large wild fires which burned substantial areas of the Clan Alpine HMA, necessitating emergency removals of animals. Since the unburned areas of the Clan Alpine HMA could only support several hundred wild horses the population was reduced below the low end of the AML. In February 2000, 96 mares were treated with fertility control PZP-22 vaccine and freeze-marked for future identification.

Table 4: Pine Nut Mountains HMA Population inventory and Gather History since 2000, (AML 119-179).

Year	Action	Number of Horses
2000	Removal	40, problem horses outside of HMA
2000	Pop. inventory	329
2003	Removal	232 inside and outside of HMA
2003	Pop. inventory	118
2006	Removal	25, problem horses outside of HMA
2007	Removal	14, problem horses outside of HMA
2008	Removal	2, problem horses outside of HMA
2008	Pop. Inventory	177
2009	Removal	10, problems horses outside of HMA

The above Table notes “problem horses outside of the HMA” which were removed following complaints from private land owners. Horses noted as "outside of HMA" were removed to provide for public and wild horse safety. A residential area (Fish Springs) is located approximately 12 miles southwest of the Pine Nut Mountains HMA and often has bands of horses moving into it. The horses are

largely attracted by the lush landscaping in numerous yards and available water in a creek and reservoir. Many home owners complain about damage to landscaping and sprinkler systems. At least several horses are killed annually by vehicles in this area. The county often removes dead horses before the BLM is aware of the fatality and some horses that are struck by vehicles sustain terminal injuries and leave the area before dying.

Table 5: Pilot Mountain HMA Population inventory and Gather History since 2000, (AML 249-415)

Year	Action	Number of Horses
2000	Pop. inventory	414
2003	Pop. inventory	526
2005	Removal	154
2005	Pop. inventory	327
2006	Removal	99
2008	Pop. inventory	406
2010	Partial Pop. inventory	104 outside of the HMA along U.S 95

The 104 horses (outside of HMA) along U.S. highway 95 near Hawthorne/Walker Lake, NV are a public safety hazard as vehicle collisions are potentially fatal to humans. If the 104 wild horses were captured and released back into the HMA they will simply return to their home range adjacent to the highway.

1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to gather approximately 1,111 wild horses, remove approximately 224 excess wild horses which have established home ranges outside of the HMAs, and treat approximately 420 mares with the fertility control vaccine PZP-22 to facilitate maintenance of the population within the respective AMLs and reduce the number of excess wild horses that would need to be removed in future gathers. If gather efficiency exceeds 80% additional mares will be treated and released back into to the HMAs. The BLM intends to return to these HMAs in 2-3 years in order to maintain the population control measures by gathering and re-treating the mares. The proposed action would manage wild horse populations within established AMLs as well as making significant progress in attaining the management objectives indentified in the Carson City Consolidated Resource Management Plan (CRMP), and the Standards for Rangeland Health & Guidelines for Grazing Management (S&Gs) in the Sierra Front Northwestern Great Basin Area.

The proposed action is needed to achieve compliance with the CRMP, provides for public safety, improve the health of natural resources, and enhance the health and safety of the wild horses. Management of wild horses at the AMLs protects rangeland resources from deterioration that could result from wild horse overpopulation. The action would also result in fewer wild horses being placed in short/long-term holding facilities and the adoption sale pipeline over time.

1.4 Land Use Plan Conformance

The 2001 CRMP is incorporated by reference. The Proposed Action and No Action alternatives described are in conformance with pages WHB –1-5. This EA is a project specific refinement of the Lahontan EIS (1983) and the Walker RMP (1085) focusing on the management of wild horses in the Clan Alpine, Pilot

Mountain and Pine Nut HMAs. The AMLs for the HMAs were established through the allotment evaluation and Final Multiple Use Decision (FMUD) process. The HMAs are located within the administrative jurisdiction of the Carson City District Office (CCDO).

The following decisions from the CRMP affect the three HMAs:

1. WHB-2, decision 2 – "Maintain sound thriving populations of wild horses within HMAs."

2. WDL-3, decision 4 – "Maintain and improve wildlife habitat, and reduce habitat conflicts while providing for other appropriate resource uses."

3. WDL-2, decision 6 – "Maintain or improve the condition of the public rangelands so as to enhance productivity for all rangeland values (including wildlife)."

1.5 Relationship to Statutes, Regulations, and Other Plans

The Proposed Action is in conformance with the WFRHBA (as amended), applicable regulations at 43 CFR § 4700 and BLM policies. Applicable regulations and BLM policies include:

- **43 CFR 4710.3-1: Herd management areas.** Herd management areas shall be established for the maintenance of wild horse and burro herds. In delineating each herd management area, the authorized officer shall consider the appropriate management level for the herd, the habitat requirements of the animals, the relationships with other uses of the public and adjacent private lands, and the constraints contained in 4710.4. The authorized officer shall prepare a herd management area plan, which may cover one or more herd management areas.

- **43 CFR 4710.4: Constraints on management.** Management of wild horses and burros shall be undertaken with limiting the animals' distribution to herd areas. Management shall be at the minimum feasible level necessary to attain the objectives identified in approved land use plans and herd management area plans.

- **43 CFR 4740.1: Use of motor vehicles or aircraft.** (a) Motor vehicles and aircraft may be used by the authorized officer in all phases of the administration of the Act, except that no motor vehicle or aircraft, other than helicopters, shall be used for the purpose of herding or chasing wild horses or burros for capture or destruction. All such use shall be conducted in a humane manner. (b) Before using helicopters or motor vehicles in the management of wild horses or burros, the authorized officer shall conduct a public hearing in the area where such use is to be made.

- **43 CFR 4700.0-6**: (a) Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and productive capacity of their habitat.

Other Plans

- The Clan Alpine Herd Management Area Plan and Capture Plan and EA #NV-030-93-004, 1993, pages 3-5.
- Clan Alpine Determination of Land Use Plan Conformance and NEPA Adequacy #NV-030-00-006, 2000, pages 3-4.

- Pine Nut Mountain Herd Management Area Capture Plan and E.A. #NV-030-03-18, 2003, pages 6-7.
- Pilot Mountain Herd Management Area Final Capture Plan and E.A. #NV-030-04-20, 2004, pages 6-7, contains additional statements regarding conformance with existing Land Use Plans.

1.6 Conformance with Rangeland Health Standards and Guidelines by Livestock Grazing Allotment

Maintaining wild horse populations within AML sustains a healthy horse population, ensures a thriving natural ecological balance, and prevents degradation to rangeland conditions by deterring negative impacts to rangeland resources that can result from wild horse over population. This has been demonstrated by the evaluation of key areas and ecological sites under rangeland health assessments protocol. Damage results from over utilization of resources when populations exceed the carrying capacity of the rangeland.

The Pilot-Table Mountain Livestock Grazing Allotment/Pilot Mountain HMA:
A Pilot-Table Mountain Allotment rangeland health protocol assessment evaluation of key areas and ecological sites was conducted the summer of 2009. Although the final Standards and Guidelines Assessment and Determination have not been completed, as of this date, it was noted at some of the ecological sites that excess wild horses were a contributing factor for reduced amounts of perennial grasses and forbs, including winterfat (www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html). During the rangeland health evaluations, wild horse sign was commonly evident and abundant, while signs of use by cattle were negligible. Excess wild horses can contribute to spring development damages, such as corrals, troughs, spring boxes and the spring source. Spring development damage is a major contributing factor to the reduction of the available water supply. Maintaining wild horse numbers within the AML could reduce the occurrence of damage to springs and spring developments enhancing the availability of water for wildlife, livestock and riparian vegetation.

Managing vegetation utilization within the moderate or less categories is important to establishing a viable rangeland plant community. When plants are not over utilized there is an adequate amount of photosynthetic material remaining for the production of carbohydrates to meet the vegetations growth and respiration demands. The plants enter dormancy with more root reserves for next year's growth and reproduction.

The Gillis Mountain Livestock Grazing Allotment/Pilot Mountain HMA:
A Standards and Guidelines Assessment was completed for the Gillis Mountain Allotment in 2004. The wild horse population size was estimated to be higher than the 526 horses that were counted in 2003. The assessment was partially based on the 1993 Gillis Mountain Allotment Evaluation when the wild horse population in the HMA was 891. A determination was made that this allotment met all Standards and Guidelines, to include soils, riparian/wetlands, water quality, plant and animal habitat, and Special Status Species Habitat (www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html). Only about five percent of the Pilot Mountain HMA is within the Gillis Mountain Allotment, considering that there is a lack of available water, this allotment is not significantly impacted by wild horses. Managing wild horse numbers within the established AML would not have a significant impact on meeting the standards for rangeland health.

The Cedar Mountain Livestock Grazing Allotment/Pilot Mountain HMA:
A Rangeland Health data assessment was completed for the Cedar Mountain Allotment in 2006. The 2006 wild horse population size was at 24 horses, the upper AML, for this allotment/HMA. The 2006 data assessment determined that excess wild horses were a contributing factor for not achieving and/or not allowing for progress towards achieving the Standards for Rangeland Health: Standard 2 – Riparian/Wetlands and Standard 3 – Water Quality (www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html).

The Clan Alpine Livestock Grazing Allotment/Clan Alpine HMA:
A Standards and Guides and Rangeland Health Assessment is in progress. The 2009 utilization data showed moderate use for the last growing season. In the past when the wild horse population was above AML, utilization data indicated heavy use resulting in a determination that excess wild horses were a contributing factor for the over utilization of forage grasses.

The Cow Canyon Livestock Grazing Allotment/Clan Alpine HMA:
During the 2009 Standards and Guides Rangeland and Health Assessment period the wild horse numbers were within AML. The only problem area reflecting over grazing by cattle and wild horses was located at the mouth of Dyer Canyon. By contrast, when wild horse numbers were above AML, use pattern mapping documented heavy use in several areas throughout the allotment.

The Dixie Valley Livestock Grazing Allotment/Clan Alpine HMA:
A Rangeland Health analysis has been completed and the Standards and Guides will be completed this summer (2010). A Riparian functionality assessment will be completed this summer. The use pattern mapping data indicates moderate use when the wild horse numbers are within the AML range and heavy use when the wild horse numbers are above the upper AML. The Dixie Valley Allotment utilization is currently moderate.

The Clifton, Eldorado, Hackett Canyon, Mill Canyon, Rawe Peak Livestock Grazing Allotments/Pine Nut Mountain HMA:
Recent utilization data indicated light use for the last growing year (2009) in the Clifton and Eldorado allotments. Wild horse use of perennial grass species ranged between 2%-40%. The overall utilization goal was met for the last growing season, but no livestock grazing occurred on the allotments. Utilization of perennial grasses should not exceed 55%. It can be expected that if full livestock numbers were run, over use would likely occur. In the past when the horse population was above AML, utilization data showed heavy use resulting in a determination that excess wild horses were contributing factors for the overuse of forage grasses.

The Buckeye, Churchill Canyon, Sunrise Livestock Grazing Allotments/Pine Nut HMA:
Key areas within specific ecological sites were evaluated on the Buckeye allotment from 2000-2003 and on the Churchill Canyon and Sunrise allotments in the summer of 2007. A determination was made that resource conditions within the Buckeye and Churchill Canyon allotments met all the Standards and Guidelines for Rangeland Health (soils, riparian/wetlands, water quality, plant and animal habitat, and Special Status Species Habitat) (www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html). The standard for riparian areas was not met on the Sunrise allotment; the cause was attributed to livestock use. The wild horse population size was 118 horses in

2003 and 177 horses in 2008. The wild horse population was within AML and the standards for rangeland health were met.

1.7 Decision to be Made

The BLM authorizing officer would determine whether to implement the proposed capture to vaccinate all of the released mares with a fertility control vaccine to maintain population size within the established AMLs and avoid the deterioration of the range that can result from wild horse overpopulation. The authorizing officer's decision would not set or adjust AMLs, or adjust livestock use, as these were set through previous decisions. Approximately 224 excess wild horses including all wild horses residing outside the HMA boundaries would be removed from the range to achieve a population size within the AML.

1.8 Scoping and Identification of Issues

This EA will be made available on the CCDO web site to allow federal and State agencies as well as the general public an opportunity for review and comments. BLM internal, external, public, State and federal agency coordination and Native American tribes consultation was also completed during the development of the previously prepared Herd Management Area Plans (HMAP), gather plans and EAs: The Clan Alpine Herd Management Area Plan and Capture Plan and EA #NV-030-93-004, 1993. The Clan Alpine Determination of Land Use Plan Conformance and NEPA Adequacy #NV-030-00-006, 2000. The Pine Nut Mountain Herd Management Area Capture Plan and EA #NV-030-03-18, 2003. The Pilot Mountain Herd Management Area Final Capture Plan and EA #NV-030-04-20, 2004.

The issues listed below were identified as a result of BLM's internal scoping relative to the proposed contraceptive control treatment of wild horses (mares) in the planning areas.

1. Impacts to individual wild horses and the herd. Measurement indicators for this issue include:
- Projected population size and annual growth rate (WinEquus population modeling).
- Expected impacts to individual wild horses from handling stress.
- Expected impacts to herd social structure.
- Expected effectiveness of proposed fertility control application.
- Potential effects to genetic diversity.
- Potential impacts to animal health and condition.

2. Impacts to vegetation/soils, riparian/wetland, and cultural resources. Measurement indicators for these issues include:
- Expected forage utilization.
- Potential impacts to vegetation/soils and riparian/wetland resources.

3. Impacts to wildlife, including migratory birds and BLM special status species, and their habitat. Measurement indicators for these issues include:
- Potential for temporary displacement, trampling or disturbance.
- Short and long term for potential competition over forage and water.

2.0 Proposed Action and Alternatives

2.1 Introduction

The EA describes the Proposed Action and alternatives, including those that were considered but eliminated from detailed analysis.

2.2 Description of Proposed and No Action Alternative Considered in Detail

2.2.1 Proposed Action Alternative:

The Proposed Action will adequately accomplish gathering an estimated 1,111 wild horses, removing approximately 224 excess wild horses (171 of which are established on lands outside of the HMAs), releasing 887 wild horses back into the HMAs and treating an estimated 420 mares with a fertility control vaccine (PZP-22) to facilitate AMLs and reduce the number of excess wild horses that would need to be removed in the future. If gather efficiency exceeds 80% additional mares will be treated and released in to the respective HMAs. The BLM intends to return to these areas in 2-3 years in order to maintain the population control protocols by gathering and retreating the mares. The Proposed Action would establish significant progress toward attainment of the management requirements. Managing adequate resources within the HMAs discourage horses from moving outside of the areas to obtain life supporting natural resources. The Proposed Action results in fewer wild horses being placed in short or long-term holding facilities as well as the adoption and sale program over time.

The majority of mares vaccinated will not produce a foal for the following 22 months which will maintain the horse populations within the AML range. Over the long term it is estimated that there will be at least several hundred fewer foals being born. The use of PZP-22 can be repeated in 2 years or as necessary to maintain control of the population growth rate. There are always mares that manage to evade capture and subsequent treatment or that produce a foal even when treated with PZP-22 assuring the populations will continue to have reproduction occurring . After the contraceptive wears off the population will increase at or slightly above the normal 10% growth rate.

All of the released mares would be treated with a two-year Porcine Zona Pellucida (PZP-22) or similar vaccine and released back to the open range. Fertility control treatment will be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (SOPs, Appendix A). Post-gather, every effort will be made to return the released horses to the same general area from which they were gathered.

The Pilot Mountain and Pine Nut gathers would begin on or about November 2010 and the Clan Alpine gather would begin on or about February 2011. Several factors such as animal physical condition, herd health, weather conditions, or other considerations could result in schedule adjustments. Gather operations will be conducted in accordance with the Standard Operating Procedures (SOPs) described in the National Wild Horse and Burro Gather Contract (Appendix B). The primary gather (capture) method would be the helicopter drive method with occasional helicopter assisted roping (from horseback). Trap sites and temporary holding facilities will be located at previously used sites or other heavily surface disturbed areas (Maps 1-3) whenever possible. Several previously used trap sites were located on private lands that were near horse concentrations, provided easy vehicle access and suitable terrain features for capturing wild horses. Dependent upon private land owner consent, these sites may be utilized again. New undisturbed areas selected as potential trap sites or holding facilities will be

inventoried for cultural resources by qualified BLM personnel. If cultural resources are encountered, the locations would be avoided, unless they could be mitigated to eliminate any impacts.

Trap sites and holding facilities will not be located inside of Wilderness Study Areas (WSAs). Motorized vehicle use will only be permitted on authorized designated existing (cherry stemmed) roads and trails extending into the WSAs.

An Animal and Plant Inspection Service (APHIS) or other veterinarian may be on-site during the gathers, as needed, to examine animals and make recommendations to the BLM for care and treatment. Any wild horses residing outside the HMA boundaries, any weaned foals, yearlings or orphaned foals would be removed and made available for adoption to qualified individuals. Old, sick or lame horses unable to maintain an acceptable body condition greater than or equal to a Henneke Body Condition Score (BCS) of 3 or with serious physical defects such as club feet, severe limb deformities, or sway back would be humanely euthanized as an act of mercy. Decisions to humanely euthanize animals in field situations will be made in conformance with BLM policy (Washington Office Instruction Memorandum 2009-041). Refer to:
http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2009/IM_2009-041.html

Wild horse data including sex and age distribution, condition class information (using the Henneke rating system), color, size and other information may also be recorded. Hair samples may be collected on about 25-100 animals to assess the genetic diversity of the herds.

2.2.2 No Action Alternative:

The BLM would not conduct a capture/gather at this time. Direct management of the wild horse populations in the Clan Alpine, Pilot Mountain and Pine Nut HMAs would be deferred to a later date. The horse populations would not be maintained at the AMLs compatible with the environment. The fertility control vaccine would not be administered to mares. More frequent future gathers to remove excess wild horses would be scheduled when the AML upper limit is exceeded and/or other resource management objectives are not being met. It is projected that by not applying a fertility control vaccine at the proposed time and removing the 224 excess wild horses, future gathers would need to remove over 800 excess wild horses in 2013 from the three HMAs in order to achieve low range of AML. The 104 horses along U.S. highway 95 would continue to present a serious public safety hazard and continue to be killed or injured in vehicle accidents. Compliance with the CRMP promoting a healthy natural ecological habitat in conformance with a multiple use doctrine consistent with the provisions of Section 1333a of the WFRHBA would not be met at this time.

2.3 Summary Comparison of the Proposed Action Alternative and the No Action Alternative

Table 6: Summary Comparison of the Alternatives.

Item	Proposed Action	No Action
Impacts to Wild Horses • Gather and Removal Number • Fertility Control - # Mares • Public Safety Concerns	1,145 gather, 224 remove Treat 420 mares Horses would no longer pose a serious public safety concern along highway 95, and would no longer be killed in vehicle collisions.	0 gathered, 0 removed 0 treated Horses would continue to pose a serious public safety concern along highway 95 and would likely continue to be killed in vehicle collisions.
Impacts to Vegetation/Soils and Riparian/Wetland Resources	Short term, would not differ much as relatively few horses would be removed.	Short term, would not differ much as relatively few horses would be removed.
Impacts to Wildlife, including migratory birds and BLM special status species	Same as above	Same as above

2.4 Additional Alternatives Considered but Dismissed from Detailed Analysis

2.4.1 Use of Bait and/or Water Trapping

The use of bait and water trapping would not be timely, cost-effective or practical as the primary gather method. The number of water sources on both private and public lands within and outside the HMAs would make it almost impossible to restrict wild horse access to the selected water trap sites. As a result, this alternative was dismissed from detailed analysis.

2.4.2 Remove or Reduce Livestock within the HMA

This action would not be in conformance with the existing land use plan and is contrary to the BLM's multiple-use mission as outlined in the 1976 Federal Land Policy and Management Act (FLPMA), and would be inconsistent with the WFRHBA, which directs the Secretary to immediately remove excess wild horses. Additionally this would only be effective for the very short term as the horse population would continue to increase. Eventually the HMAs and adjacent lands would no longer be capable of supporting the horse populations. Removing approximately 224 excess wild horses now and treating released mares with a fertility control vaccine would delay the future removal of horses for several years. Horse populations can double every four to five years.

3.0 Affected Environment

In accordance with the BLM's NEPA Handbook (H-1790) (BLM, 2008) internal scoping was conducted by an interdisciplinary team to identify potential natural resources and cultural resources Supplemental Authorities that may or may not be impacted by the consequences of the Proposed and No Action Alternatives. Relevant components of the human environment which would be either affected or potentially affected by the Proposed Action or No Action alternatives and other alternatives are briefly discussed below.

3.1 General Description of the Affected Environment

Refer to EA numbers: Clan Alpine NV-030-93-004 & NV- 030-00-006, Pine Nut Mountains NV-030-03-18, and Pilot Mountains NV-030-04-20 for a general description of the HMAs and the affected environment (http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa.html).

3.2 Description of Affected Resources/Issues

In preparing this environmental analysis, the elements of the human environment subject to requirements in statute, regulation, or executive order which were considered in preparing the: Clan Alpine NV-030-93-004 & NV- 030-00-006, Pine Nut Mountains NV-030-03-18, and Pilot Mountains NV-030-04-20 were reviewed. The only updates to the Supplemental Authorities of the human environment were to the wildlife and migratory bird sections. Supplemental Authorities present and potentially affected by the Proposed Action and/or the No Action Alternative are discussed below.

The following Supplemental Authorities of the environment are not present or are not affected by the proposed action or alternatives in this EA: air quality, areas of critical environmental concern, cultural resources, environmental justice, flood plains, native American religious concerns, wilderness, prime or unique farmlands, forests and rangelands, human health and safety, wastes, hazardous or solid, water quality (surface and ground), wild and scenic rivers and threatened and endangered species (plant and animal).

A review of all previous cultural resource inventories was conducted for the holding and trap sites as identified for the current gathers. The locations are within previously inventoried locations or areas of existing disturbance. In the event that any location is relocated a member of the cultural resource staff will facilitate the process.

The following Native American Tribe(s) were notified of the proposed gather(s) Fallon Paiute-Shoshone Tribe, Walker River Paiute Tribe, Washoe Tribe of Nevada and California (July 8, 2010) and the Yerington Paiute Tribe (August 17, 2010). No concerns have been identified for the horse gather(s).

No trap sites and holding facilities would be allowed within a Wilderness Study Area (WSA). Motorized vehicles are restricted to authorized designated (cherry stemmed) roads within the WSAs.

BLM specialists have determined that the following resources are present in the project area and may be affected: BLM designated sensitive species, general wildlife, vegetative resources, wild horses, livestock grazing and soils/watershed.

3.3 Supplemental Authorities

Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents. The table below lists the Supplemental Authorities and their status in the project area. Supplemental Authorities that may be affected by the Proposed Action are analyzed further in this EA.

Table 7: Supplemental Authorities Considered for Analysis.

Supplemental Authority*	Not Present	Present/Not Affected	Present/May Be Affected	Rationale and/ or Reference Section
Air Quality	X			The affected area is not within an area of non-attainment or areas where total suspended particulates or other criteria pollutants exceed Nevada air quality standards. Particulate matter (dust) from the wild horse gather is expected to be similar to that occurring from normal herd movements, and any increase in particulate matter that might occur from herding the horses to the trap sites would be short term (temporary) and minimal in nature.
Areas of Critical Environmental Concern	X			Not Present
Cultural Resources		X		A review of previous cultural inventories was conducted for the holding and trap sites as identified for the current gather. The locations are within previously inventoried locations or areas of existing disturbance. In the event that any location is relocated a member of the cultural resources staff will facilitate the process.
Environmental Justice	X			No environmental justice issues are present at or near the project.
Farm Lands (prime or unique)		X		Present not affected
Forests and rangelands (HFRA Projects Only)	X			Not Present
Human Health and Safety (Herbicide Projects)	X			Analysis in EA. A risk management worksheet will be prepared to mitigate any hazards that may present themselves.
Floodplains	X			No floodplains have been identified by HUD or FEMA within the project area. Floodplains as defined in Executive Order 11988 may exist in the area, but would not be affected by the proposed action.
Invasive, Nonnative and Noxious Species			X	Analysis in EA
Migratory Birds			X	Proposed action would be planned to occur outside of Migratory Bird nesting season. However, habitat may be affected.
Native American Religious Concerns	X			The following Native American Tribe (s) were notified of the proposed gather(s) Fallon Paiute-Shoshone Tribe, Walker River Paiute Tribe, Washoe Tribe of Nevada and California and the Yerington Paiute Tribe. No concerns have been

				identified for the horse gather (s).
Threatened and/or Endangered Species	X			BLM wildlife biologists reviewed the USFWS website for Nevada's Protected Species (http://www.fws.gov/nevada/protected_species/species_by_county.html) and determined that there are no federally-listed species in the project area (Appendix X).
Wastes, Hazardous or Solid	X			No hazardous or solid wastes exist on the permit renewal area, nor would any be introduced.
Water Quality (Surface/Ground)	X			No affects to water quality are expected.
Wetlands/Riparian Zones			X	Reduced numbers of horses will lessen impacts to wetlands and riparian zones. All trap sites and disturbances will be located away from wetlands and riparian zones.
Wild and Scenic Rivers	X			Not Present
Wilderness		X		All trap sites, holding facilities and disturbances will be located outside of Wilderness Study Areas.

3.4 Resources or uses other than Supplemental Authorities

The following resources or uses, which are not Supplemental Authorities as defined by BLM's Handbook H-1790-1, are present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below.

Table 8: Resources other than supplemental authorities.

Resource or Issue	Present/Not Affected	Present/May Be Affected	Rationale
BLM Designated Sensitive Species		X	Analysis in EA
General Wildlife		X	Analysis in EA
Vegetative Resources		X	Analysis in EA
Wild Horses		X	Analysis in EA
Livestock Grazing		X	Analysis in EA
Soils/Watershed		X	Analysis in EA

3.5 Description of the Affected Environment

3.5.1 Wild Horses

Detailed information about the HMA's history and the wild horse herds are provided in EAs: Clan Alpine NV-030-93-004, Pine Nut Mountains NV-030-03-18, and Pilot Mountains NV-030-04-20. The following table summarizes the AML, current population, and estimated removal numbers for the affected HMAs under the Proposed Action.

Table 9: Population Estimates

HMA	Current Estimate*	AML Range	Proposed Gather**	Horses Removed	Mares Treated	Horses Released
Clan Alpine	724	619-979	580	0	232	580
Pine Nut	148	119-179	118	0	45	118
Pine Nut Outside	67	Outside of HMA	67	67	0	0
Pilot Mt.	302	249-415	242	53	76	189
Pilot Mt. Outside	104	Outside of HMA	104	104	0	0
Total	1,345		1,111	224	420	887

*Population estimates are based on an annual rate of increase of 10% since the last population inventory.
** Gather efficiency expected to be approximately 80% based on terrain, vegetation cover, etc.

The Clan Alpine HMA was last gathered to remove excess wild horses in 2006, 88 horses were gathered and removed, this was in response to a wildfire which burned a portion of the HMA. In 2000, 233 excess wild horses were removed from the Clan Alpine HMA and 98 mares were treated with Porcine Zona Pellucida (PZP-22) and released back into the HMA. This gather was also in response to a wildfire which burned a substantial portion of the HMA. Post gather horse numbers were 111 mares and 114 stallions (a total of 225 animals) were released back into the HMA establishing an estimated 293 horses within the HMA. The un-gathered population was estimated at 68 animals for a total estimated post-gather population of 293 animals.

The Pine Nut Mountain HMA was last gathered to remove excess wild horses in 2003 when 279 horses were gathered and 228 were removed. The un-gathered population was estimated at 71 animals for a total estimated post-gather population of 118 animals. No animals were treated with fertility control vaccine.

The Pilot Mountain HMA was last gathered to remove excess wild horses in 2006 when 251 horses were gathered and 251 were removed. The un-gathered population was estimated at 294 animals for a total estimated post-gather population of 294 animals. No animals were treated with the fertility control vaccine.

Table 10: Removals, releases and treatment

HMA	Last Gather	Gathered	Removed	Males Released	Females Released	Not Captured	Total Released	Treated with PZP	Total Remain
Clan Alpine	2000	458	233	114	111	68	225	98	293
Clan Alpine	2006	88	88	0	0	519	0	0	519
Pine Nut	2003	279	228	22	25	71	47	0	118
Pilot Mt.	2006	251	251	0	0	0	0	0	294

A population inventory was completed for the Clan Alpine HMA in June 2010, 524 horses were counted, 5 more horses than were counted in 2007. The Clan Alpine HMA is difficult to inventory because of substantial tree cover and broken terrain. The ideal time to inventory this HMA is during the winter when the majority of horses move to relatively open areas at lower elevations to avoid deep snow cover facilitating detection. However, this year it was not possible to inventory during the winter. The observer indicated that 200 horses could easily have been missed which would be equivalent to a 10 percent rate of increase since 2007. Currently the BLM is proposing to only capture and treat mares with PZP-22 vaccine. If substantially more horses are found than expected, some of the adoptable aged mares may be removed to leave the population at approximately 700 animals.

The population of horses in the Pine Nut Mountains HMA has averaged approximately a 10 percent rate of annual increase over the past 10 years. There has been one gather of the entire HMA and numerous small gathers of a few horses that were causing problems in residential areas. At least 5 wild horses have been killed in vehicle collisions. The current population estimate is 215 horses.

The Pilot Mt. HMA also has a relatively low rate of increase of about 10 percent, however, this may be a result of an incomplete population inventory and horses moving outside of the inventory area. The current population estimate for the HMA is 406 including an estimated 104 horses residing well outside of the HMA along U.S. highway 95.

The Clan Alpine and Pilot Mountain HMAs are within the AML range and generally the vegetative community is in good condition. There are a few areas receiving heavy use though overall utilization is within acceptable levels. Horses within the Clan Alpine HMA are in good health. The few horses within the Pine Nut Mountains HMA that have been observed are also in good health. Only three horses within the Pilot Mountain HMA have been observed, they were in poor body condition but are not thought to represent the majority of the horses within the Pilot Mountain HMA.

Results of Win Equus Population Modeling

The Win Equis Population Model is a system designed to show how wild horse populations may react to different management techniques. The Alternatives (1-2) were modeled using Version 3.2 of the WinEquus population model (Jenkins, 2000). This is a model designed to project how wild horse populations may react to different management techniques. Results from the model show that over the next ten years the rate of increase can be reduced from approximately 19% to 7% for all three HMAs with PZP-22 contraception boosters given every three years. This equates to 1,412 fewer excess wild horses that would need to be gathered and placed into the adoption program or sanctuaries.

The best recruitment and mortality data available for these HMAs is for the Garfield HMA also in this district. However, this data results in a 20% annual rate of increase and was used for the model simulations. However, as previously noted the rate of increase for these HMAs appears to be closer to 10%. The lower rates of increase may have resulted from drought conditions, mountain lion predation on foals and poor census timing. If the annual rate of increase is closer to 10% rather than 20% the proportion of excess wild horses would be the same, the only difference would be the magnitude.

For the following three tables “Total Number Removed” under the “No Action” alternative is the number that would need to be removed in 11 years if the Proposed Action is not selected.

Table 11: Summary of Population Modeling Results for Clan Alpine HMA.

Alternative	Ave. Pop. Size (11 years)*	Ave. Growth Rate Next 10 Years (%)*	Total Number Gathered*	Total Number Removed*	Total Number Treated*
Proposed Action	953	6.8%	2,880	522	1,012
No Action	2,236	19.3%		1,283**	

* Median Trial

** Median number of horses needed to be removed to equal the estimated population size of the proposed action

Table 12: Summary of Population Modeling Results for Pilot Mountain HMA.

Alternative	Ave. Pop. Size (11 years)*	Ave. Growth Rate Next 10 Years (%)*	Total Number Gathered*	Total Number Removed*	Total Number Treated*
Proposed Action	481	6.7%	1,390	0	604
No Action	942	19.7%		461**	

* Median Trial

** Median number of horses needed to be removed to equal the estimated population size of the proposed action

Table 13: Summary of Population Modeling Results for Pine Nut Mountain HMA.

Alternative	Ave. Pop. Size (11 years)*	Ave. Growth Rate Next 10 Years (%)*	Total Number Gathered*	Total Number Removed*	Total Number Treated*
Proposed Action	180	7.1%	552	99	186
No Action	475	19.2%		295**	

* Median Trial

** Median number of horses needed to be removed to equal the estimated population size of the proposed action

3.5.2 Vegetation

A mosaic of plant communities is present within the HMAs. Plant communities within the HMAs include: small areas of riparian vegetation associated with springs, meadows and drainages such as aspen trees, cottonwood trees, willow (*Salix* species), sedges (*Carex* species), saltgrass (*Distichlis* spicata), and rushes (*Juncus* species), watercress (*Nasturtium* species), rose (*Rosa species*); salt desert shrub communities (greasewood, shadscale, salt brush), low sagebrush (*arbuscula & Lahontan*), big sagebrush (*Wyoming, Basin & Mountain*) and woodlands (*pinyon-juniper*).

The major perennial grass species found in the HMAs are Indian ricegrass (*Achnatherum hymenoides*), bottlebrush squirreltail (*Elymus elymoides*), galleta grass (*Hilaria jamesii*), needle and thread grass (*Hesperostipa comata*), king desertgrass (*Blepharidachne kingii*), desert needlegrass (*Achnatherum speciosum*), Thurber's needlegrass (*Achnatherum thurberianum*), Basin wildrye (*Leymus cinereus*), and Sandberg bluegrass (*Poa secunda*).

The major shrub species are Bailey greasewood (*Sarcobatus vermiculatus* var. *baileyi*), shadscale saltbush (*Atriplex confertifolia*), fourwing saltbush (*Atriplex canescens*), winterfat (*Krascheninnikovia lanata*), big sagebrush (*Artemisia tridentata*), low sagebrush (*Artemisia arbuscula*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), bud sagebrush or budsage (*Artemisia spinescens*), black sagebrush (*Artemisia nova*), antelope bitterbrush (*Purshia tridentata*), Nevada dalea (*Psorothamnus polydenius*), green rabbitbrush (*Chrysothamnus viscidiflorus*), littleleaf horsebrush

(*Tetradymia glabrata*), spiny hopsage (*Grayia spinosa*), spiny menodora (*Menodora spinescens*), burrobrush (*Hymenoclea salsola*), Shockley's wolfberry (*Lycium shockleyi*), Nevada ephedra, (*Ephedra nevadensis*), and green ephedra (*Ephedra viridis*).

The major forbs species found on the HMAs are *Eriogonum* species, *Phlox* species, evening primrose (*Oenotheris biennis*), *Astragalus* species, Prince's plume (*Stanleya* species), globemallow (*Sphaeralcea* species), and four-o'clock (*Mirabilis* species).

The major tree species include Utah juniper (*Juniperus osteosperma*) and singleleaf pinyon pine (*Pinus monophylla*).

Cacti species, includes golden cholla (*Cylindropuntia echinocarpa*) and beavertail pricklypear (*Opuntia basilaris* var. *basilaris*), also grow on the Pilot Mountain HMA.

3.5.3 Noxious Weeds

Noxious weeds found within the Pilot Mountain HMA are salt cedar (*Tamarix* species) and hoary cress (*Cardaria draba*). Noxious weeds found within the Clan Alpine HMA are musk thistle (*Carduus nutans*), Salt Cedar, perennial pepperweed (*Lepidium latifolium*), Russian knapweed (*Acroptilon repens*) and Horary Cress. Noxious weeds found within the Pine Nut HMA are hoary cress, Salt cedar, perennial pepperweed and Canada thistle (*Cirsium arvense*).

3.5.4 Invasive Weeds

Cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*) and Russian thistle (*Salsola tragus*) are found in both the Clan Alpine and Pilot Mountain HMAs, Cheatgrass and Russian thistle are found in the Pine Nut Mountain HMA.

The invasive plant Cheatgrass (*Bromus tectorum*) is common throughout Nevada especially in areas that have burned recently.

3.5.5 Livestock

Livestock grazing occurs within the HMAs as prescribed in grazing permits and summarized below.

Table 14: Authorized livestock use occurs within the HMAs as shown below.

Allotment	HMA	Active Preference	Actual use AUMs 2009-10	Season of use
Pilot-Table Mt.	Pilot Mt.	900 cattle; 4,468 AUMs		11/01-03/31
Pilot-Table Mt.	Pilot Mt.	150 cattle; 1,055 AUMs		04/01-10/31
Pilot-Table Mt.	Pilot Mt.	12 horses; 144 AUMs		03/01-02/28
Pilot-Table Mt.	Pilot Mt.		1,944	
Gillis Mt.	Pilot Mt.	422 cattle; 2,317 AUMs	1,674	11/15-04/30
Cedar Mt.	Pilot Mt.	186 cattle; 925 AUMs	372	11/01-03/31
Clan Alpine	Clan Alpine	927 cattle; 10,210 AUMs	9,247	05/01-03/31
Clan Alpine	Clan Alpine	1,737 sheep; 1,200 AUMs	771	12/01-03/15
Cow Canyon	Clan Alpine	365 cattle; 2,388 AUMs	2,074	05/01-11/15
Dixie Valley	Clan Alpine	528 cattle; 6,341 AUMs	5,341	Yearlong
Clifton	Pine Nut	123 cattle; 613 AUMs	0	01/01-05/31
Rawe Peak	Pine Nut	cattle ; 54 AUMs	0	11/01-03/31
Buckeye	Pine Nut	375 cattle; 1,471AUMs	500	04/01-09/15
Churchill Can	Pine Nut	167 cattle 1,074 AUMs	1,074	11/01-05/15
Hackett Can	Pine Nut	cattle/ sheep; 187 AUMs	0	03/15-06/30
Mill Can	Pine Nut	9,275 sheep; 2,049 AUMs	0	11/01-03/31
El Dorado	Pine Nut	342 sheep; 270 AUMs	0	11/01-02/28
Sand can	Pine Nut	TNR*		
Sunrise	Pine Nut	52 cattle; 159 AUMs	159	03/15 -06/15

*TNR Temporary non-renewable, no permitted use occurs; TNR is at the discretion of the BLM

3.5.6 General Wildlife

Based on the Southwest Regional GAP Analysis Project, the Nevada Department of Wildlife's Wildlife Action Plan (2006) characterized Nevada's vegetative land cover into 8 broad ecological system groups and linked those with Key Habitat types, which are further refined into Ecological Systems characterized by plant communities or associations (USGS 2005). Key Habitats can be used to infer likely occurrences of wildlife species assemblages when survey data are lacking, as is the case within these HMAs. Some of the known or potential wildlife species that could be supported by the plant communities in the HMAs are displayed in Table 15. Because intensive plant and animal surveys have not been completed, not all species in the tables are known to currently exist within the HMAs.

Table 15: Potential BLM designated sensitive species, migratory bird species of conservation concern (as per IM 2008-050), and general wildlife that may use components of the key habitats in the HMAs.

Key Habitats	Potential Wildlife Species	Scientific Name	BLM Sensitive Species	Migratory Bird (per IM 2008-050)	Primary Habitat Use Affected
Intermountain Cold Desert Scrub	Black-tailed jack rabbit	*Lepus californicus*	No	N/A	Food sources and thermal cover
Sagebrush	Black-throated sparrow	*Amphispiza bilineata*	No	No	Increased nesting cover
Lower Montane Woodlands	Brewer's sparrow	*Spizella breweri*	No	Yes	Increased nesting cover
	Burrowing owl	*Athene cunicularia*	Yes	Yes	Increased food sources
	Coachwhip	*Masticophis flagellum*	No	N/A	Food sources and thermal cover
	Common side-blotched lizard	*Uta stansburiana*	No	N/A	Food sources and thermal cover
	Dark kangaroo mouse	*Microdipodops megacephalus*	No	N/A	Food sources and thermal cover
	Desert horned lizard	*Phrynosoma platyrhinos*	No	N/A	Food sources and thermal cover
	Desert spiny	*Sceloporus magister*	No	N/A	Food sources and thermal cover
	Ferruginous hawk	*Buteo regalis*	Yes	Yes	Increased prey base
	Golden eagle	*Aquila chrysaetos*	Yes	Yes	Increased prey base
	Great Basin collared lizard	*Crotaphytus bicinctores*	No	N/A	Food sources and thermal cover
	Great Basin rattlesnake	*Crotalus viridis lutosus*	No	N/A	Food sources and thermal cover
	Kit fox	*Vulpes macrotis*	No	N/A	Increased prey base
	Loggerhead shrike	*Lanius ludovicianus*	Yes	Yes	Increased nesting cover and prey base

	Long-nosed leopard lizard	*Gambelia wislizenii*	No	N/A	Food sources and thermal cover
	Pale kangaroo mouse	*Microdipodops pallidus*	No	N/A	Food sources and thermal cover
	Pallid bat	*Antrozous pallidus*	Yes	N/A	Increased prey base
	Prairie falcon	*Falco mexicanus*	Yes	Yes	Increased prey base
	Sage sparrow	*Amphispiza belli*	No	Yes	Increased nesting cover
	Sage-grouse	*Centrocercus urophasianus*	Yes	Yes	Nesting and brood-rearing cover
	Western fence lizard	*Sceloporus occidentalis*	No	N/A	Food sources and thermal cover
	Western whiptail	*Cnemidophorus tigris*	No	N/A	Food sources and thermal cover
	Zebra-tailed lizard	*Callisaurus draconoides*	No	N/A	Food sources and thermal cover

Wildlife water developments exist for pronghorn (*Antilocarpa americanaamericana),* (2) desert bighorn sheep (*Ovis canadensis nelsoni*), (4) and chukar partridge (*Alectoris chukar*), (10) in the Pilot Mountain HMA, for desert bighorn sheep (4) and chukar (15) in the Clan Alpine HMA, and for small game species (4) in the Pine Nut HMA. Small game guzzlers are used by a variety of wildlife including chukar, quail and other birds, small mammals, and reptiles. Natural water sources are limited in the Pilot Mountain HMA and are utilized heavily by livestock and wild horses (but not in the Clan Alpine HMA). Natural water sources are also limited in the Pine Nut HMA and wildlife, livestock, and wild horses all rely on this scarce resource. Degradation to water sources has occurred from use by livestock and wild horses. Mountain lions (*Felis concolor*) inhabit the HMAs and will predate foals and possibly sick horses. Golden eagles (*Aquila chrysaetos*) and various other raptors inhabit and forage in the HMAs.

3.5.7 Game Species

Mule Deer ─ Mule deer (*Odocoileus hemionus*) have incurred a 50% decline in Nevada since the 1980s (Wildlife Action Plan Team 2006). Mule deer generally feed on forbs, grasses, and shrubs depending on the time of year. Forbs and grasses are most important in spring and summer while shrubs are most utilized during winter and dry summer months. The Pilot Mountain and Pine Nut HMAs have limited mule deer habitat and occupancy is restricted by water availability (NDOW 2010). Approximately 52% (164, 245 acres) of the Clan Alpine HMA supports mule deer populations, including crucial winter, summer, and year-round habitat (NDOW 2010).

Desert Bighorn Sheep ─ Desert bighorn prefer areas near rough, rocky, and steep terrain; require freestanding water in the summer months or during drought; and eat grasses, shrubs, and forbs. The Pilot Mountains HMA encompasses 181,855 acres (71%) of occupied habitat and 325 acres of potential habitat, the Clan Alpine HMA encompasses 207,259 acres (65%) of occupied habitat, and the Pine Nut HMA encompasses 81,480 acres (83%) of potential habitat (NDOW 2010).

Pronghorn ─ Pronghorn have an evolutionary history of 20 million years in North America. They were almost wiped out in the 1800s but have rebounded due to changes in wildlife and rangeland management techniques. Pronghorn primarily eat forbs and shrubs with grasses being the least preferred forage. The Pilot Mountain HMA supports 212,472 acres of year-round habitat. The Clan Alpine HMA does not have any habitat delineated but pronghorn utilize areas from the north to the south (NDOW 2010, Axtell pers. comm.). The Pine Nut HMA does not have delineated pronghorn habitat (NDOW 2010), however, pronghorn do occur within the HMA.

Chukar ─ this species from the pheasant family was originally introduced from Pakistan as an upland game bird. It can be found on rocky hillsides or open and flat desert with sparse grassy vegetation. Chukar primarily eat seeds but will forage on some insects.

3.5.8 BLM Designated Sensitive Species

Species designated as Bureau sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range.

2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

A list of sensitive animal and plant species associated with BLM lands in Nevada was signed in 2003 (BLM 2003). Many of these species that depend on cold desert scrub ecosystems are currently impacted through decreased plant species diversity within the project area.

3.5.9 BLM Sensitive Species (Plants)

There are two BLM sensitive plant species which are found within the herd management areas. The Lavin eggvetch (*Astragalus oophorus* var. *lavinii*) is found within the Pine Nut Mountain herd management area. The Lahontan beardtongue (*Penstemon palmeri* var. *macranthus*) is found within the Clan Alpine herd management area. Both species are perennial forbs which occupy drainages and washes. See the Affected Environment, General Wildlife section (Section 3.5.6) for a detailed discussion on existing habitat. The sensitive species that may utilize the area are displayed in Table 15 (animals) and Table 16 (plants).

Although the Pilot Mt HMA is not in a greater sage-grouse (*Centrocercus urophasianus*) population management unit (PMU), sage-grouse have been sighted at four different springs within the HMA. Population abundance for sage-grouse in this HMA is currently unknown. The Clan Alpine HMA is within the Clan Alpine sage-grouse PMU. This PMU contains one known active lek and large areas of nesting, summer, and winter habitat. The Pine Nut HMA is in the Pine Nut sage-grouse PMU. This PMU contains two breeding populations and large areas of nesting, summer, and winter habitat. Wild horses have been observed around the lek and brooding area that occur in the portion of the PMU that overlaps with the HMA. In March 2010, a decision by the U.S. Fish and Wildlife Service on whether to list the greater sage-grouse under the Endangered Species Act was finalized. A determination of "warranted but precluded" by higher listing priorities was made. One of the primary threats documented in the listing decision is habitat loss/modification.

3.5.10 Migratory Birds

On January 11, 2001, President Clinton signed Executive Order 13186 (Land Bird Strategic Project) placing emphasis on conservation and management of migratory birds. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 and the EO addresses the responsibilities of federal agencies to protect them by taking actions to implement the MBTA. BLM management for these species is based on Instruction Memorandum No. IM 2008-050 dated December 18, 2007 (BLM 2007). See the Affected Environment, General Wildlife section (Section 3.5.6) for a detailed discussion on existing habitat. The migratory bird species of concern that occur or are likely to occur in the project area are displayed in Table 15.

3.6 Health and Safety

In recent gathers, members of the public have increasingly traveled to the public lands to observe BLM's gather operations. While many members of the public cause no problems as a result of their presence and follow BLM's directions during the gathers, a few members of the public have actively taken or attempted to take actions to obstruct or interfere with the wild horse gather operations. For example, during recent past gathers such individuals have attempted to drive into unauthorized areas or have attempted to enter into or be close to the pens where wild horses are being held following the gather. Members of the public can also inadvertently wander into areas that put them in the path of wild horses that are being herded or handled during the gather operations. Such activities, whether intentional or accidental, not only hamper the gather operations, but more importantly, create the potential for injury to the wild horses or burros and to the BLM employees and contractors conducting the gather and/or handling the horses as well as to the public themselves. Because these horses are wild animals, there is always the potential for injury when individuals get too close or inadvertently get in the way of gather activities.

The helicopter work is done at various heights above the ground, from as little as 10-15 feet (when herding the animals the last short distance to the gather corral) to several hundred feet (when doing a recon of the area). While helicopters are highly maneuverable and the pilots are very skilled in their operation, unknown and unexpected obstacles in their path can impact their ability to react, creating an extreme safety concern. These same unknown and unexpected obstacles can impact the wild horses or burros being herded by the helicopter in that they may not be able to react and can be potentially harmed or caused to flee which can lead to injury and additional stress. When the helicopter is working close to the ground, the rotor wash of the helicopter is a safety concern by potentially causing loose vegetation,

dirt, and other objects to fly through the air which can strike or land on anyone in close proximity as well as cause decreased vision**.**

4.0 Environmental Consequences

All individuals identified on the CCDO mailing list will be mailed a letter furnishing the necessary BLM website contact information where the Clan Alpine, Pilot Mountain, Pine Nut Herd Management Area Gather Plan/EA is located for their review and comments. As part of public participation this document will be placed on the Carson City District web site for a 30 day public comment period. The following Native American Tribe(s) were notified of the proposed gather(s) Fallon Paiute-Shoshone Tribe, Walker River Paiute Tribe, Washoe Tribe of Nevada and California (July 8, 2010) and the Yerington Paiute Tribe (August 17, 2010).

BLM internal scoping, public comment, consultation and coordination with other federal, State agencies, and tribes has previously been accomplished during the development of the following past Heard Management Area Plans, Gather Plans and EAs: The Clan Alpine Herd Management Area Plan and Capture Plan and EA #NV-030-93-004, 1993. The Clan Alpine Determination of Land Use Plan Conformance and NEPA Adequacy #NV-030-00-006, 2000. The Pine Nut Mountain Herd Management Area Capture Plan and EA #NV-030-03-18, 2003. The Pilot Mountain Herd Management Area Final Capture Plan and EA #NV-030-04-20, 2004.

4.1 Introduction

BLM personnel were identified by the SFO and SFFO Environmental Interdisciplinary (ID) Team process to represent programs that could be potentially affected by the proposed actions and have reviewed and furnished program specific data within this EA. These include the direct impacts (those that result from the management actions) and indirect impacts (those that exist once the management action has occurred).

4.2 Predicted Effects of Alternatives

The direct and indirect impacts to these resources which would be expected to result with implementation of the Proposed Action or No Action alternatives are discussed in detail below.

4.2.1 Wild Horses

Under the Proposed Action, approximately 1,111 wild horses would be captured, approximately 224 excess wild horses removed (includes 104 along U. S. highway 95 outside of the Pilot Mountain HMA), and approximately 887 would be released back to the range of which approximately 420 mares would be treated with PZP-22. The horses to be removed would consist primarily of all wild horses residing outside the HMAs, mares, weaned foals and yearlings. These animals would be transported to a BLM short-term corral facility where they would receive appropriate care and be prepared for adoption, sale (with limitations) or long-term holding. Any old, sick or lame horses that would be unable to maintain an acceptable body condition (greater than or equal to a Henneke BC of 3) would be humanely euthanized as an act of mercy.

Fertility control would be applied to all the released mares to decrease future annual population growth. The detailed procedures to be followed for the implementation of fertility control are in Appendix A. Each released mare would receive a single dose of the two-year PZP contraceptive vaccine. When

injected, PZP (antigen) causes the mare's immune system to produce antibodies and these antibodies bind to the mare's eggs, and effectively block sperm binding and fertilization (Zoo, Montana, 2000). PZP is relatively inexpensive, meets BLM requirements for safety to mares and environment, and can easily be administered in the field. Additionally PZP contraception appears to be completely reversible.

The highest success for fertility control has been obtained when applied during the timeframe of November through February. The efficacy for the application of the two-year PZP vaccine based on winter applications follows:

	Year 1	Year 2	Year 3	Year 4
Normal	94%	82%	68%	

One-time application at the capture site would not affect normal development of a fetus, hormone health of the mare or behavioral responses to stallions, should the mare already be pregnant when vaccinated (Kirkpatrick, 1995). The vaccine has also proven to have no apparent effect on pregnancies in progress, the health of offspring, or the behavior of treated mares (Turner, 1997). Mares would foal normally in 2011 (Year 1).

The fertility control treatment would be controlled, handled, and administered by a trained BLM employee. Mares receiving the vaccine would experience slightly increased stress levels associated with handling while being vaccinated and freeze-marked. Serious injection site reactions associated with fertility control treatments are rare in treated mares. Any direct impacts associated with fertility control, such as swelling or local reactions at the injection site, would be minor in nature and of short duration. Most mares recover quickly once released back to the HMA, and none are expected to have long term consequences from the fertility control injections.

Direct and Indirect Gather Impacts

Over the past 35 years, various impacts to wild horses as a result of gather activities have been observed. Under the Proposed Action, impacts to wild horses would be both direct and indirect, occurring to both individual horses and the population as a whole.

The BLM has been conducting wild horse gathers since the mid-1970s. During this time, methods and procedures have been identified and refined to minimize stress and impacts to wild horses during gather implementation. The SOPs in Appendix B would be implemented to ensure a safe and humane gather occurs and would minimize potential stress and injury to wild horses.

In any given gather, gather-related mortality averages only about one half of one percent (0.5%), which is very low when handling wild animals. Approximately, another six-tenths of one percent (0.6%) of the captured animals could be humanely euthanized due to pre-existing conditions and in accordance with BLM policy within the Government Accountability Office (GAO-09-77). The data affirms that the use of helicopters and motorized vehicles has proven to be a safe, humane, effective, and practical means for the gather and removal of excess wild horses (and burros) from the public lands. The BLM also avoids gathering wild horses by helicopter during the 6 weeks prior to and 6 weeks following the peak foaling period (mid-April to mid-May), therefore the BLM does not use a helicopter to gather wild horses between March 1 through June 30.

Individual, direct impacts to wild horses include the handling stress associated with the roundup, capture, sorting, handling, and transportation of the animals. The intensity of these impacts varies by individual, and is indicated by behaviors ranging from nervous agitation to physical distress. When being herded to trap site corrals by the helicopter, injuries sustained by wild horses may include bruises, scrapes, or cuts to feet, legs, face, or body from rocks, brush or tree limbs. Rarely, wild horses will encounter barbed wire fences and will receive wire cuts. These injuries are very rarely fatal and are treated on-site until a veterinarian can examine the animal and determine if additional treatment is indicated.

Other injuries may occur after a horse has been captured and is either within the trap site corral, the temporary holding corral, during transport between facilities, or during sorting and handling. Occasionally, horses may sustain a spinal injury or a fractured limb but based on prior gather statistics serious injuries requiring humane euthanasia are rare. Similar injuries could be sustained if wild horses were captured through bait and/or water trapping, as the animals still need to be sorted, aged, transported, and otherwise handled following their capture. These injuries result from kicks and bites, or from collisions with corral panels or gates.

To minimize the potential for injuries from fighting, the animals are transported from the trap site to the temporary (or short-term) holding facility where they are sorted as quickly and safely as possible, then moved into large holding pens where they are provided with hay and water. On many gathers, no wild horses are injured or die. On some gathers, due to the temperament of the horses, they are not as calm and injures are more frequent. Indirect individual impacts are those which occur to individual wild horses after the initial event. These may include miscarriages in mares, increased social displacement, and conflict in studs. These impacts, like direct individual impacts, are known to occur intermittently during wild horse gather operations. An example of an indirect individual impact would be the brief 1-2 minute skirmish between older studs which ends when one stud retreats. Injuries typically involve a bite or kick with bruises which do not break the skin. Like direct individual impacts, the frequency of these impacts varies with the population and the individual. Observations following capture indicate that the potential for miscarriages vary, but is more likely if the mares are in very thin body condition or in poor health.

A few foals may be orphaned during a gather. This can occur if the mare rejects the foal, the foal becomes separated from its mother and cannot be matched up following sorting, the mare dies or must be humanely euthanized during the gather, the foal is ill or weak and needs immediate care that requires removal from the mother, or the mother does not produce enough milk to support the foal. On occasion, foals are gathered that were previously orphaned on the range (prior to the gather) because the mother rejected it or died. These foals are usually in poor, unthrifty condition. Every effort is made to provide appropriate care to orphan foals. Veterinarians may administer electrolyte solutions or orphan foals may be fed milk replacer as needed to support their nutritional needs. Orphan foals may be placed in a foster home in order to receive additional care. Despite these efforts, some orphan foals may die or be humanely euthanized as an act of mercy if the prognosis for survival is very poor.

In some areas, gathering wild horses during the winter may avoid the stress that could be associated with a summer gather. By fall and winter, foals are of good body size and sufficient age to be easily weaned. Winter gathers are often preferred when terrain and higher elevations make it difficult to gather wild horses during the summer months. Under winter conditions, horses are often located in lower elevations

due to snow cover at higher elevations. This typically makes the horses closer to the potential trap sites and reduces the potential for fatigue and stress. While deep snow can tire horses as they are moved to the trap, the helicopter pilots allow the horses to travel slowly at their own pace. Trails in the snow are often followed to make it easier for horses to travel to the trap site. On occasion, trails can be plowed in the snow to facilitate the safe and humane movement of horses to a trap.

In some areas, a winter gather may result in less stress as the cold and snow does not affect wild horses to the degree that heat and dust might during a summer gather. Wild horses may be able to travel farther and over terrain that is more difficult during the winter, even if snow does not cover the ground. Water requirements are lower during the winter months, making distress from heat exhaustion extremely rare. By comparison, during summer gathers, wild horses may travel long distances between water and forage and become more easily dehydrated. Most summer related concerns can be mitigated by conducting gather activities during the early morning hours when it is cooler. Temperature related in the winter can be avoided by limiting activities when temperatures are below zero.

Through the capture and sorting process, wild horses are examined for health, injury and other potential physical defects. Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy. BLM Euthanasia Policy IM-2009-041 is used as a guide to determine if animals meet the criteria and should be euthanized (refer to SOPs, Appendix A). Animals that are euthanized for non-gather related reasons include those with old injuries (broken or deformed limbs) that cause lameness or prevent the animal from being able to maintain an acceptable body condition (greater than or equal to BCS 3); old animals that have serious dental abnormalities or severely worn teeth and are not expected to maintain an acceptable body condition, and wild horses that have serious physical defects such as club feet, severe limb deformities, or sway back. Some of these conditions have a causal genetic component and the animals should not be returned to the range to prevent suffering, as well as to avoid amplifying the incidence of the problem in the population.

Wild horses not captured may be temporarily disturbed and moved into another area during the gather operation. With the exception of changes to herd demographics from removals, direct population impacts have proven to be temporary in nature with most, if not all, impacts disappearing within hours to several days of release. No observable effects associated with these impacts would be expected within one month of release, except for a heightened awareness of human presence.

It is not expected that genetic health would be impacted by the Proposed Action. The AML ranges should provide for acceptable genetic diversity.

By maintaining wild horse population size within the AML, there would be a lower density of wild horses across the HMA, reducing competition for resources and allowing wild horses to utilize their preferred habitat. Maintaining population size within the established AML would be expected to improve forage quantity and quality and promote healthy, self-sustaining populations of wild horses in a thriving natural ecological balance and multiple use relationship on the public lands in the area. Deterioration of the range associated with wild horse overpopulation would be avoided. Managing wild horse populations in balance with the available habitat and other multiple uses would lessen the potential for individual animals or the herd to be affected by drought, and would avoid or minimize the need for emergency gathers, which would reduce stress to the animals and increase the success of these herds over the long-term.

Over the next 11 years, implementation of the Proposed Action would result in 1,412 fewer excess wild horses which would require removal from the range. For every excess horse not adopted or sold, a savings to the American taxpayer of up to $12,000 per animal over 20 years would accrue.

Transport, Short Term Holding, and Adoption (or Sale) Preparation
About 224 excess horses would be removed. Animals would be transported from the capture/temporary holding corrals to the designated BLM short-term holding corral facility(s). From there, they would be made available for adoption or sale to qualified individuals or to long-term pastures (LTPs).

Wild horses selected for removal from the range are transported to the receiving short-term holding facility in a straight deck semi-trailers or goose-neck stock trailers. Vehicles are inspected by the BLM COR or PI prior to use to ensure wild horses can be safely transported and that the interior of the vehicle is in a sanitary condition. Wild horses are segregated by age and sex and loaded into separate compartments. A small number of mares may be shipped with foals. Transportation of recently captured wild horses is limited to about 8 hours. During transport, potential impacts to individual horses can include stress, as well as slipping, falling, kicking, biting, or being stepped on by another animal. Unless wild horses are in extremely poor condition, it is rare for an animal to be seriously injured or die during transport.

Upon arrival at the short term holding facility, recently captured wild horses are off-loaded by compartment and placed in holding pens where they are fed good quality hay and water. Most wild horses begin to eat and drink immediately and adjust rapidly to their new situation. At the short-term holding facility, a veterinarian examines each load of horses and provides recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently captured wild horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club feet, and other severe congenital abnormalities) would be humanely euthanized using methods acceptable to the American Veterinary Medical Association (AVMA). Wild horses in very thin condition or animals with injuries are sorted and placed in hospital pens, fed separately and/or treated for their injuries as indicated. Recently captured wild horses, generally mares, in very thin condition may have difficulty transitioning to feed. Some of these animals are in such poor condition that it is unlikely they would have survived if left on the range. Similarly, some mares may miscarriage. Every effort is taken to help the mare make a quiet, low stress transition to captivity and domestic feed to minimize the risk of miscarriage or death.

After recently captured wild horses have transitioned to their new environment, they are prepared for adoption or sale. Preparation involves freeze-marking the animals with a unique identification number, drawing a blood sample to test for equine infections anemia, vaccination against common diseases, castration, and de-worming. During the preparation process, potential impacts to wild horses are similar to those that can occur during handling and transportation. Serious injuries and deaths from injuries during the preparation process are rare, but can occur.

At short-term corral facilities, a minimum of 700 square feet is provided per animal. Mortality at short-term holding facilities averages approximately 5% per year (GAO-09-77, Page 51), and includes animals euthanized due to a pre-existing condition; animals in extremely poor condition; animals that

are injured and would not recover; animals which are unable to transition to feed; and animals which are seriously injured or accidentally die during sorting, handling, or preparation.

Adoption or Sale with Limitations, and Long Term Pastures

Adoption applicants are required to have at least a 400 square foot corral with panels that are at least six feet tall for horses over 18 months of age. Applicants are required to provide adequate shelter, feed, and water. The BLM retains title to the horse for one year and the horse and the facilities are inspected to assure the adopter is complying with the BLM's requirements. After one year, the adopter may take title to the horse after an inspection from a humane official, veterinarian, or other individual approved by the authorized officer, at which point the horse becomes the property of the adopter. Adoptions are conducted in accordance with 43 CFR 4750.

Potential buyers must fill out an application and be pre-approved before they may buy a wild horse. A sale-eligible wild horse is any animal that is more than 10 years old; or has been offered unsuccessfully for adoption three times. The application also specifies that all buyers are not to re-sell the animal to slaughter buyers or anyone who would sell the animal to a commercial processing plant. Sales of wild horses are conducted in accordance with Bureau policy.

Between 2007 and 2009, nearly 62% of excess wild horses or burros were adopted and about 8% were sold with limitation (to good homes) to qualified individuals. Animals 5 years of age and older are transported to LTPs. Each LTP is subject to a separate environmental analysis and decision making process. Animals in LTPs remain available for adoption or sale to individuals interested in acquiring a larger number of animals and can provide the animals with a good home. The BLM has maintained LTPs in the Midwest for over 20 years.

Potential impacts to wild horses from transport to adoption, sale or LTP are similar to those previously described. One difference is that when shipping wild horses for adoption, sale or LTP, animals may be transported for a maximum of 24 hours. Immediately prior to transportation, and after every 18-24 hours of transportation, animals are offloaded and provided a minimum of 8 hours on-the-ground rest. During the rest period, each animal is provided access to unlimited amounts of clean water and 25 pounds of good quality hay per horse with adequate bunk space to allow all animals to eat at one time. Most animals are not shipped more than 18 hours before they are rested. The rest period may be waived in situations where the travel time exceeds the 24-hour limit by just a few hours and the stress of offloading and reloading is likely to be greater than the stress involved in the additional period of uninterrupted travel.

LTPs are designed to provide excess wild horses with humane, life-long care in a natural setting off the public rangelands. There wild horses are maintained in grassland pastures large enough to allow free-roaming behavior and with the forage, water, and shelter necessary to sustain them in good condition. About 22,700 wild horses, that are in excess of the existing adoption or sale demand (because of age or other factors), are currently located on private land pastures in Iowa, Kansas, Oklahoma, and South Dakota. Located in mid or tall grass prairie regions of the United States, these LTP are highly productive grasslands as compared to more arid western rangelands. These pastures comprise about 256,000 acres (an average of about 8-10 acres per animal). The majority of these animals are older in age.

Mares and castrated stallions (geldings) are segregated into separate pastures except one facility where geldings and mares coexist. No reproduction occurs in the long-term grassland pastures, but foals are born to mares that were pregnant when they were removed from the range and placed onto the LTP. These foals are gathered and weaned when they reach about 8-10 months of age and are then shipped to short-term facilities where they are made available adoption. Handling by humans is minimized to the extent possible although regular on-the-ground observation and weekly counts of the wild horses to ascertain their numbers, well-being, and safety are conducted. A very small percentage of the animals may be humanely euthanized if they are in very thin condition and are not expected to improve to a BCS of 3 or greater due to age or other factors. Natural mortality of wild horses in LTP averages approximately 8% per year, but can be higher or lower depending on the average age of the horses pastured there (GAO-09-77, Page 52). The savings to the American taxpayer which results from contracting for LTP averages about $4.45 per horse per day as compared with maintaining the animals in short-term holding facilities.

Euthanasia and Sale without Limitation

While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, Congress prohibited the use of appropriated funds between 1987 and 2004 and again in 2010 for this purpose. It is unknown if a similar limitation will be placed on the use of FY2011 appropriated funds. Sale with limitations has been used by the BLM since 2005 when the Act was amended.

No Action Alternative

Under the No Action Alternative, there would be no active management to maintain the population size within the established AML at this time. In the absence of a gather, wild horse populations would continue to grow at an average rate of 10% per year. Without a gather and removal now, the population would grow to the upper limit of AML in five years time based on the average annual growth rate for both the Clan Alpine and Pilot Mountain HMAs. The wild horse population for the Pine Nut Mountain HMA already exceeds the upper limit of the AML. When the HMAs exceed the maximum AML, the BLM would be required to gather and remove 692 excess wild horses from the Clan Alpine and Pilot Mountain HMAs. The excess animals would be transported to BLM short-term corral facilities where they would be prepared for adoption, sale or long-term holding. Any excess animals not adopted or sold would be maintained at a cost of up to $12,000 per horse over 20 years.

4.2.2 Vegetation

Proposed Action Alternative

Native plant communities can only sustain a certain level of grazing utilization. The maximum AML is the maximum number of wild horses that can be maintained within an HMA and not adversely impact the plant community in combination with other multiple uses such as wildlife and livestock grazing.

No Action Alternative

Under the no action alternative wild horse populations would continue to increase. When wild horse populations are above AML, overutilization of vegetation occurs. The potential negative effects of over-utilization to vegetation are root crown damage, plant stress and the reduced ability of forage species to reproduce and compete with other species in the plant community. If wild horse populations continue to grow and exceed AML desirable plant species would eventually be lost from the HMAs and surrounding areas.

4.2.3 Noxious Weeds

Proposed Action Alternative

Intact healthy native plant communities are more resistant to establishment and spread of noxious weeds. By managing wild horses at a level compatible with the native plant communities noxious weeds will be less likely to become established and spread.

No Action Alternative

Under the no action alternative the wild horse population would continue to increase eventually the health of the native plant communities would become stressed facilitating the establishment and spread of noxious weeds.

4.2.4 Invasive Weeds

Proposed Action Alternative

Intact healthy native plant communities are more resistant to establishment and spread of invasive weeds. By managing wild horses at a level compatible with the native plant communities invasive weeds will be less likely to become established and spread.

No Action Alternative

Under the no action alternative the wild horse population would continue to increase eventually the health of the native plant communities would become stressed facilitating the establishment and spread of invasive weeds.

4.2.5 Livestock

Impacts to livestock would be similar to those described in the following E.A.s: Clan Alpine Herd Management Area Plan and Capture Plan and EA #NV-030-93-004, 1993, Clan Alpine Determination of Land Use Plan Conformance and NEPA Adequacy #NV-030-00-006, 2000, Pine Nut Mountain Herd Management Area Capture Plan and EA #NV-030-03-18, 2003, Pilot Mountain Herd Management Area Final Capture Plan and EA #NV-030-04-20, 2004. These analyses are incorporated by reference.

Proposed Action Alternative

By managing horses at the identified levels adequate forage would be available for grazing by domestic livestock which would achieve or move toward meeting management objectives.

No Action Alternative

Loss of desirable plant species would affect livestock grazing by over utilization of forage.

4.2.6 General Wildlife

Key Habitat types and associated Ecological Systems (plant communities) in the HMAs that could potentially be affected directly or indirectly by the Proposed Action are displayed in Table 16.

Table 16: **Key Habitat types and associated Ecological Systems that may exist and be potentially affected in the Pilot Mountains and Clan Alpine HMAs. Based on SWReGAP descriptions (USGS 2005).**

Key Habitat / Associated Ecological System(s)	Potential Plant Species	Scientific Name
Intermountain Cold Desert Scrub / Intermountain Basins Mixed Salt Desert Scrub	Alkali sacoton	*Sporobolus airoides*
Sagebrush / Great Basin Xeric Mixed Sagebrush Shrubland, Inter-Mountain Basins Big Sagebrush Shrubland, Inter-Mountain Basins Semi-Desert Grassland	Big galleta	*Pleuraphis rigida*
Lower Montane Woodlands / Great Basin Pinyon-Juniper Woodland	Bailey's greasewood	*Sarcobatus vermiculatus* var. *baileyi*
	Big sagebrush	*Artemisia tridentata*
	Black sagebrush	*Artemisia nova*
	Bottlebrush squirreltail	*Elymus elymoides*
	Bud sagebrush	*Picrothamnus desertorum*
	Common spikerush	*Eleocharis palustris*
	Desert needlegrass	*Achnatherum speciosum*
	Fourwing saltbush	*Atriplex canescens*
	Galleta	*Pleuraphis jamesii*
	Indian ricegrass	*Achnatherum hymenoides*
	Low sagebrush	*Artemisia arbuscula*
	Nevada jointfir	*Ephedra nevadensis*
	Needle and thread grass	*Hesperostipa comata*
	Rubber rabbitbrush	*Ericameria nauseosa*
	Saltbush spp	*Atriplex spp*
	Sandberg bluegrass	*Poa secunda*
	Shadscale saltbush	*Atriplex confertifolia*
	Spiny hopsage	*Grayia spinosa*
	Winterfat	*Krascheninnikovia lanata*
	Yellow rabbitbrush	*Chrysothamnus viscidiflorus*

Proposed Action Alternative
Direct, short-term, localized impacts could occur to wildlife species during gather operations. Wildlife including small mammals, rodents, and reptiles could be trampled or have burrows destroyed. Any potential spatial displacement to big game, upland game, and resident birds would likely be temporary.

Horse numbers are within the allotted AML range for the Clan Alpine and Pilot Mt. HMAs, but are over the upper limit of the AML for the Pine Nut HMA. Beneficial indirect effects to wildlife resources would be expected from a reduction in horse numbers to within AML for the Pine Nut HMA and maintenance of horse numbers within AML for the Clan Alpine and Pilot Mt. HMAs. Beneficial effects would be related to the overall prevention of the habitat degradation associated with wild horse overpopulation. Over-utilization of forage could occur if horse numbers increase beyond AML. Habitat could become degraded, which would decrease forage and cover available to wildlife and decrease the prey base for wildlife species that forage in the HMAs. Over time this could decrease the abundance of wildlife species that inhabit the HMAs. Managing horses within AML should provide adequate habitat requirements of forage, water, cover, and space for wildlife species.

No Action Alternative
While no direct, short-term, localized impacts from potential trampling and spatial displacement would occur to wildlife species because no gather operations would occur, horse populations that increase over the upper limit of the AML can indirectly have long-term negative impacts to wildlife resources. Wild horses primarily eat native bunchgrasses so dietary overlap between horses and mule deer, as well as pronghorn, has been documented as minimal (1%). Dietary overlap with desert bighorn sheep has been documented around 50% when averaged throughout the year (Hanley & Hanley 1982, Hansen et al. 1977). However, if AML is exceeded over time and overutilization of vegetation and water sources by wild horses occurs, this is a factor in decreasing plant diversity and altering habitat structure (Beever and Brussard 2000). A less diverse plant community can be vulnerable to fire and in turn invasive grasses such as cheatgrass. Cheatgrass displaces native perennial shrub, grass, and forb species because of its ability to outcompete native plants for water and nutrients by germinating earlier and quicker. Cheatgrass is also adapted to recurring fires that are perpetuated in part by the fine dead fuels that it leaves behind. In general, most wildlife species have a difficult time thriving in these altered fire regimes because diverse native vegetation is required for food, water, and cover. Beever at al. (2008) conducted a study of vegetation response to removal of horses in 1997 and 1998 (part of study was in the Clan Alpine HMA) and concluded that horse-removed sites exhibited 1.1–1.9 times greater shrub cover, 1.2–1.5 times greater total plant cover, 2–12 species greater plant species richness, 1.9–2.9 times greater native grass cover, and 1.1–2.4 times greater frequency of native grasses than did horse-occupied sites.

Effects of wild horses are not uniform across the landscape. Horses will utilize areas of the HMAs that have more grasses because they are primarily grazers. While impacts to water sources and riparian areas from horses are different than cattle due to behavior (horses tend to not linger at a source and drink in the morning and at night), decreased cover and diversity of grasses and shrubs as well as decreased mammal burrow density have been documented at water sources utilized by wild horses (Beever and Brussard 2000, Ganskopp and Vavra 1986). Small mammals are a prey base for many species and as a result, less prey can negatively affect raptors and carnivores that may inhabit the area. Mountain lion populations have been shown to predate foals which in turn increased lion numbers (Turner and Morrison 2001). If too many foals are born in these HMAs, mountain lion populations could increase

and this in turn could impact deer and bighorn sheep survival or have ripple effects on the food web in general.

Overall, if the gather and contraception efforts are successful, maintaining less utilization and competition for forage would benefit species dependent on these key habitats for food, water, and cover. Additionally, species that prey on wildlife that inhabit these plant communities, such as golden eagles, may benefit from an increased prey base over time.

4.2.7 Migratory Birds

Proposed Action Alternative

Gather operations would not be expected to directly impact breeding populations of migratory bird species because operations would occur in winter outside the breeding season. Direct, short-term, localized impacts could occur to resident birds during gather operations via potential spatial displacement of individual birds.

For reasons described in the Environmental Consequences, General Wildlife section (Section 4.2.3), managing within AML should maintain habitat conditions that benefit migratory bird species over the long-term by providing a diverse vegetation structure that provides for multiple life requirements that any given species may need to successfully reproduce

No Action Alternative

While no direct, short-term, localized impacts from potential spatial displacement would occur to migratory birds because no gather operations would occur, horse populations that increase over the upper limit of the AML could indirectly have long-term negative impacts to wildlife resources. Over-utilization of forage by wild horses could occur if population numbers increase beyond AML. Habitat could become degraded, which would decrease forage and cover available to migratory bird species. Over time this could decrease the abundance of species that inhabit the HMAs.

4.2.8 BLM Sensitive Species

Proposed Action Alternative

Impacts would generally be the same to BLM sensitive species as described in the Environmental Consequences, General Wildlife section (Section 4.2.3). Managing horses within AML should keep habitat conditions that, over time, would benefit sensitive species by providing a diverse vegetation structure and composition that provides for the life history requirements of any given species. Minimizing or maintaining current levels of competition for water and forage would be beneficial to sensitive species dependent on key habitats for water, food, and cover. Sensitive species such as the golden eagle or burrowing owl that forage in the HMAs would benefit from a healthy prey base.

No Action Alternative

Over-utilization of forage by wild horses could occur if population numbers increase beyond AML. Habitat could become degraded, which would decrease forage and cover available to BLM sensitive species. Prey for BLM sensitive species could also decline. Over time this could decrease the abundance of sensitive species that inhabit the HMAs.

Sage-grouse require specific amounts of grass cover for optimal nesting habitat, an abundance of forbs for brood-rearing habitat, and free water with sufficient vegetation to support insects and to provide cover (Connelly et al. 2000). Sage-grouse habitat can be negatively affected if grass is over-utilized by wild horses or livestock.

4.2.9 BLM Designated Sensitive Species

Proposed Action Alternative
Lavin eggvetch and Lahontan beardtongue are grazed. Managing wild horses within the AML would be expected to result in less grazing.

No Action Alternative
High densities of wild horses may graze on the two forb species with unknown impacts over time.

4.2.10 Health and Safety

Proposed Action Alternative
Public safety as well as that of the BLM and contractor staff is a concern during the gather operations. During the herding process, wild horses or burros will try to flee if they perceive that something or someone suddenly blocks or crosses their path. Fleeing horses can go through wire fences, traverse unstable terrain, and go through areas that they normally don't travel in order to get away, all of which can lead them to injure people by striking or trampling them if they are in the animals path.

Disturbances in and around the gather and holding corral have the potential to injure the government and contractor staff who are trying to sort, move and care for the horses and burros by causing them to be kicked, struck, and possibly trampled by the animals trying to flee. Such disturbances also have the potential for similar harm to the public themselves.

There would be no safety concerns to BLM employees, contractors and the general public as no gather activities would occur.

4.3 Cumulative Effects for All Alternatives

The NEPA regulations define cumulative impacts as impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The Cumulative Impacts Study Area (CSA) for the purposes of evaluating cumulative impacts is the Clan Alpine, Pilot Mountain and Pine Nut HMAs.

4.3.1 Past and Present Actions

The actions which have influenced today's wild horse population are primarily wild horse gathers, which have resulted in the removal of 321excess horses from the Clan Alpine HMA since 2000, 323 excess horses from the Pine Nut HMA since 2000 and 253 horses from the Pilot Mountain HMA since 2000. Refer to EAs Clan Alpine Herd Management Area Plan and Capture Plan and EA #NV-030-93-004, 1993,Clan Alpine Determination of Land Use Plan Conformance and NEPA Adequacy #NV-030-

00-006, 2000, Pine Nut Mountain Herd Management Area Capture Plan and EA #NV-030-03-18, 2003, Pilot Mountain Herd Management Area Final Capture Plan and EA #NV-030-04-20, 2004) for additional information.

4.3.2 Reasonably Foreseeable Future Actions

Over the next 10-20 year period, reasonably foreseeable future actions include gathers about every three years to revaccinate the mares and remove a few excess wild horses in order to manage population size within the established AML range. The Herd Management Area Plans (HMAPs) which have been completed for the three HMAs to establish short and long-term management and monitoring objectives for the herd and its habitat will be evaluated. Any future wild horse management would be analyzed in appropriate environmental documents following site-specific planning with public involvement.

Other reasonably foreseeable future actions include the transport, handling, care, and disposition of the excess wild horses removed from the range. Initially wild horses would be transported from the capture/temporary holding corrals to a designated BLM short-term holding corral facility. From there, the animals would be made available for adoption or sale to individuals who can provide a good home, or to LTH pastures.

4.4 Summary of Past, Present, and Reasonably Foreseeable Future Actions

Proposed Action Alternative

The cumulative effects associated with the capture and removal of excess wild horses and the application of fertility control vaccine to release mares includes gather-related mortality of less than 1% of the captured animals, about 5% per year associated with transportation, short term holding, adoption or sale with limitations and about 8% per year associated with long-term holding. This compares with natural mortality on the range ranging from about 5-8% per year for foals (animals under age 1), about 5% per year for horses ages 1-15, and 5-100% for animals age 16 and older (Stephen Jenkins, 2002, Garrott and Taylor, 1990). In situations where forage and/or water are limited, mortality rates increase, with the greatest impact to young foals, nursing mares and older horses. Animals can experience lameness associated with trailing to/from water and forage, foals may be orphaned (left behind) if they cannot keep up with their mare, or animals may become too weak to travel. After suffering, often for an extended period, the animals may die. Before these conditions arise, the BLM generally removes the excess animals to prevent their suffering from dehydration or starvation.

While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, Congress prohibited the use of appropriated funds between 1987 and 2004 and again in 2010 for this purpose. It is unknown if a similar limitation will be placed on the use of FY2011 appropriated funds.

The other cumulative effects which would be expected when incrementally adding either of the Action Alternatives to the CSA would include continued improvement of upland vegetation conditions, which would in turn benefit permitted livestock, native wildlife, and wild horse population as forage (habitat) quality and quantity is improved over the current level. Application of fertility control should slow population growth and result in fewer gathers, fewer excess wild horses that need to be removed and less frequent disturbance to individual wild horses and the herd's social structure. However, return of wild

horses back into the HMA could lead to increased difficulty and greater costs to gather horses in the future as released horses learn to evade the helicopter.

Cumulatively, there should be more stable wild horse populations, less competition for limited forage and water resources, healthier rangelands, and wild horses, and fewer multiple use conflicts in the area over the short and long-term. Over the next 10-20 years, continuing to manage wild horses within the established AML range would achieve a thriving natural ecological balance and multiple use relationship on public lands in the area.

No Action Alternative

Under the No Action Alternative, the wild horse population could exceed 2,000 for all three HMAs including horses outside of the HMA in four years. Movement outside the HMA would be expected as greater numbers of horses search for food and water. Heavy to excessive utilization of the available forage would be expected and the water available for use could become increasingly limited. Emergency removals could be expected in order to prevent individual animals from suffering or death as a result of insufficient forage and water. Cumulative impacts would result in foregoing the opportunity to improve rangeland health and to properly manage wild horses in balance with the available forage and water and other multiple uses. Attainment of site-specific vegetation management objectives and Standards for Rangeland Health would not be achieved. AML would not be achieved and the opportunity to collect the scientific data necessary to re-evaluate AML levels, in relationship to rangeland health standards, would be foregone.

5.0 Monitoring and Mitigation Measures

The BLM COR and PIs assigned to the gather would be responsible for ensuring contract personnel abide by the contract specifications and the SOPs (Appendix B). Ongoing monitoring of forage condition and utilization, water availability, aerial population surveys, and animal health would continue. Fertility control monitoring would be conducted in accordance with the SOPs (Appendix A).

6.0 List of Preparers

The following list identifies the interdisciplinary team member's area of responsibility:

Internal CCDO Review

Name	Title	Responsible for the Following Section(s) of this Document
John Axtell	**Wild Horse Specialist**	**Project Lead/ Wild Horse**
John Wilson, Pilar Ziegler	**Wildlife Biologists**	**Wildlife, Migratory Birds, and Special Status Species**
Jim deLaureal	**Soil Scientist**	**Non-native Invasive Species Including Noxious Weeds, Soil, and Water.**
Chip Kramer, Brian Buttazoni	**NEPA Coordinators**	**NEPA, Air Quality, Environmental Justice, Human Health and Safety**
Linda Appel, Jill Deavaurs, Katrina Leavitt	**Rangeland Management Specialists**	**Livestock Grazing**
Susan McCabe, Stephen Christy	**Archaeologists**	**Cultural Resources and Native American Religious Concerns**
Dan Westermeyer	**Outdoor Recreation Planner**	**Wilderness Study Areas**

7.0 Consultation and Coordination

Public hearings are held annually on a state-wide basis regarding the use of motorized vehicles, including helicopters and fixed-wing aircraft, in the management of wild horses (or burros).). During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of motorized vehicles. The Elko District Office held a state-wide public hearing on July 1, 2010; thirteen public participants attended and their comments were entered into the record for this hearing. Most were in support of the use of helicopters and the gathering of excess wild horses. Standard Operating Procedures were reviewed in response to these concerns and no changes to the SOPs were indicated based on this review.

The use of helicopters and motorized vehicles has proven to be safe, effective and practical means for gather and removal of excess wild horses and burros from the range. Since July 2004, Nevada has gathered 26,000 animals with a mortality rate of 1.1 percent (of which 0.5 percent was gather related) which is very low when handling wild animals. BLM also avoids gathering wild horses prior to and during the peak foaling period and does not conduct helicopter removals of wild horses during March 1 through June 30 unless under emergency situations.

8.0 Public Involvement

Comments will be accepted on the Clan Alpine, Pilot Mountain and Pine Nut Mountain Gather Plan Environmental Assessment DOI-BLM-NV-L030-2010-0019-EA, for 30 days until the close of business on 09, 23, 2010. Interested individuals should mail written comments to the BLM Carson City District

Office, 5665 Morgan Mill Rd., Carson City, NV 89701 attn: Terri Kuntson, Stillwater Field Manager for the Clan Alpine and Pilot Mountain HMAs and Linda Kelly, Sierra Front Field Manager for the Pine Nut Mountains HMA or send an e-mail to: mailto:ccwhbeacpp_2010@blm.gov Note there is an underscore between cpp_2010. Please note that only the email comments received through the identified email address will be considered. Comments can also be faxed to: (775) 885-6147. The EA is also posted at http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa.html

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10.0 Appendices

Appendix A – Standard Operating Procedures (Fertility Control Application and Monitoring)
Appendix B – Standard Operating Procedures (Gather Operation)
Appendix C – Win Equus Population Modeling Results
Appendix D – List of Figures - Herd Management Areas and Grazing Allotment Maps
Appendix E - List of Acronyms
Appendix F - Persons, Groups or Agencies Consulted

APPENDIX A

Standard Operating Procedures for Population-level Fertility Control Treatments

22-month time-release pelleted vaccine:

1. PZP vaccine would be administered only by trained BLM personnel or collaborating research partners.
2. Mares that have never been treated would receive 0.5 cc of PZP vaccine emulsified with 0.5 cc of Freund's Modified Adjuvant (FMA). Mares identified for re-treatment receive 0.5 cc of the PZP vaccine emulsified with 0.5 cc of Freund's Incomplete Adjuvant (FIA).
3. The fertility control drug is administered with two separate injections: (1) a liquid dose of PZP is administered using an 18-gauge needle primarily by hand injection; (2) the pellets are preloaded into a 14-gauge needle. These are delivered using a modified syringe and jabstick to inject the pellets into the gluteal muscles of the mares being returned to the range. The pellets are designed to release PZP over time similar to a time-release cold capsule.
4. Delivery of the vaccine would be by intramuscular injection into the gluteal muscles while the mare is restrained in a working chute. The primer would consist of 0.5 cc of liquid PZP emulsified with 0.5 cc of Freunds Modified Adjuvant (FMA). The pellets would be loaded into the jabstick for the second injection. With each injection, the liquid or pellets would be injected into the left hind quarters of the mare, above the imaginary line that connects the point of the hip (hook bone) and the point of the buttocks (pin bone).
5. In the future, the vaccine may be administered remotely using an approved long range darting protocol and delivery system if or when that technology is developed.
6. All treated mares will be freeze-marked on the hip or neck HMA managers to positively identify the animals during the research project and at the time of removal during subsequent gathers.

Monitoring and Tracking of Treatments:

1. At a minimum, estimation of population growth rates using helicopter or fixed-wing surveys will be conducted before any subsequent gather. During these surveys it is not necessary to identify which foals were born to which mares; only an estimate of population growth is needed (i.e. # of foals to # of adults).
2. Population growth rates of herds selected for intensive monitoring will be estimated every year post-treatment using helicopter or fixed-wing surveys. During these surveys it is not necessary to identify which foals were born to which mares, only an estimate of population growth is needed (i.e. # of foals to # of adults). If, during routine HMA field monitoring (on-the-ground), data describing mare to foal ratios can be collected, these data should also be shared with the NPO for possible analysis by the USGS.
3. A PZP Application Data sheet will be used by field applicators to record all pertinent data relating to identification of the mare (including photographs if mares are not freeze-marked) and date of treatment. Each applicator will submit a PZP Application Report and accompanying narrative and data sheets will be forwarded to the NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.
4. A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, disposition of any unused PZP, the number of treated mares by HMA, field office, and State along with the freeze-mark(s) applied by HMA and date.

APPENDIX B

Standard Operating Procedures for Wild Horse (or Burro) Gathers

Gathers are conducted by utilizing contractors from the Wild Horse (or Burros) Gathers-Western States Contract or BLM personnel. The following procedures for gathering and handling wild horses apply whether a contractor or BLM personnel conduct a gather. For helicopter gathers conducted by BLM personnel, gather operations will be conducted in conformance with the *Wild Horse Aviation Management Handbook* (January 2009).

Prior to any gathering operation, the BLM will provide for a pre-capture evaluation of existing conditions in the gather area(s). The evaluation will include animal conditions, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with wilderness boundaries, the location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine whether the proposed activities will necessitate the presence of a veterinarian during operations. If it is determined that a large number of animals may need to be euthanized or capture operations could be facilitated by a veterinarian, these services would be arranged before the capture would proceed. The contractor will be apprised of all conditions and will be given instructions regarding the capture and handling of animals to ensure their health and welfare is protected.

Trap sites and temporary holding sites will be located to reduce the likelihood of injury and stress to the animals, and to minimize potential damage to the natural resources of the area. These sites would be located on or near existing roads whenever possible.

The primary capture methods used in the performance of gather operations include:

1. Helicopter Drive Trapping. This capture method involves utilizing a helicopter to herd wild horses into a temporary trap.
2. Helicopter Assisted Roping. This capture method involves utilizing a helicopter to herd wild horses or burros to ropers.
3. Bait Trapping. This capture method involves utilizing bait (e.g., water or feed) to lure wild horses into a temporary trap.

The following procedures and stipulations will be followed to ensure the welfare, safety and humane treatment of wild horses in accordance with the provisions of 43 CFR 4700.

A. Capture Methods used in the Performance of Gather Contract Operations

1. The primary concern of the contractor is the safe and humane handling of all animals captured. All capture attempts shall incorporate the following:

   All trap and holding facilities locations must be approved by the Contracting Officer's Representative (COR) and/or the Project Inspector (PI) prior to construction. The Contractor may also be required to change or move trap locations as determined by the COR/PI. All traps

and holding facilities not located on public land must have prior written approval of the landowner.

2. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors. Under normal circumstances this travel should not exceed 10 miles and may be much less dependent on existing conditions (i.e. ground conditions, animal health, and extreme temperature (high and low)).

3. All traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:

    a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for burros, and the bottom rail of which shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design.

    b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes larger than 2"x4".

    c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable fly chute to restrain, age, or provide additional care for the animals shall be placed in the runway in a manner as instructed by or in concurrence with the COR/PI.

    d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, plastic snow fence, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses

    e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking or sliding gates.

4. No modification of existing fences will be made without authorization from the COR/PI. The Contractor shall be responsible for restoration of any fence modification which he has made.

5. When dust conditions occur within or adjacent to the trap or holding facility, the Contractor shall be required to wet down the ground with water.

6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, estrays or other animals the COR determines need to be housed in a separate pen from the other animals. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions,

the government will require that animals be restrained for the purpose of determining an animal's age, sex, or other necessary procedures. In these instances, a portable restraining chute may be necessary and will be provided by the government. Alternate pens shall be furnished by the Contractor to hold animals if the specific gathering requires that animals be released back into the capture area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the COR.

7. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day. The contractor will supply certified weed free hay if required by State, County, and Federal regulation.

   An animal that is held at a temporary holding facility through the night is defined as a horse/burro feed day. An animal that is held for only a portion of a day and is shipped or released does not constitute a feed day.

8. It is the responsibility of the Contractor to provide security to prevent loss, injury or death of captured animals until delivery to final destination.

9. The Contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if animals must be euthanized and provide for the destruction of such animals. The Contractor may be required to humanely euthanize animals in the field and to dispose of the carcasses as directed by the COR/PI.

10. Animals shall be transported to their final destination from temporary holding facilities as quickly as possible after capture unless prior approval is granted by the COR for unusual circumstances. Animals to be released back into the HMA following gather operations may be held up to 21 days or as directed by the COR. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the COR. The Contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and Federal holidays, unless prior approval has been obtained by the COR. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three (3) hours in any 24 hour period. Animals that are to be released back into the capture area may need to be transported back to the original trap site. This determination will be at the discretion of the COR/PI or Field Office horse specialist.

B. Additional Capture Methods That May Be Used in the Performance of a Gather

1. Capture attempts may be accomplished by utilizing bait (feed, water, mineral licks) to lure animals into a temporary trap. If this capture method is selected, the following applies:

a. Finger gates shall not be constructed of materials such as "T" posts, sharpened willows, etc., that may be injurious to animals.

b. All trigger and/or trip gate devices must be approved by the COR/PI prior to capture of animals.

c. Traps shall be checked a minimum of once every 10 hours.

2. Capture attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If the contractor selects this method the following applies:

a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the COR/PI. Under no circumstances shall animals be tied down for more than one half hour.

b. The contractor shall assure that foals shall not be left behind, and orphaned.

3. Capture attempts may be accomplished by utilizing a helicopter to drive animals to ropers. If the contractor, with the approval of the COR/PI, selects this method the following applies:

a. Under no circumstances shall animals be tied down for more than one hour.

b. The contractor shall assure that foals shall not be left behind, or orphaned.

c. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.

C. Use of Motorized Equipment

1. All motorized equipment employed in the transportation of captured animals shall be in compliance with appropriate State and Federal laws and regulations applicable to the humane transportation of animals. The Contractor shall provide the COR/PI, if requested, with a current safety inspection (less than one year old) for all motorized equipment and tractor-trailers used to transport animals to final destination.

2. All motorized equipment, tractor-trailers, and stock trailers shall be in good repair, of adequate rated capacity, and operated so as to ensure that captured animals are transported without undue risk or injury.

3. Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap site(s) to temporary holding facilities, and from temporary holding facilities to final destination(s). Sides or stock racks of all trailers used for transporting animals shall be a minimum height of 6 feet 6 inches from the floor. Single deck tractor-trailers 40 feet or longer shall have at least two (2) partition gates providing at least three (3) compartments within the

trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing at least two (2) compartments within the trailer to separate the animals. Compartments in all tractor-trailers shall be of equal size plus or minus 10 percent. Each partition shall be a minimum of 6 feet high and shall have a minimum 5 foot wide swinging gate. The use of double deck tractor-trailers is unacceptable and shall not be allowed.

4. All tractor-trailers used to transport animals to final destination(s) shall be equipped with at least one (1) door at the rear end of the trailer which is capable of sliding either horizontally or vertically. The rear door(s) of tractor-trailers and stock trailers must be capable of opening the full width of the trailer. Panels facing the inside of all trailers must be free of sharp edges or holes that could cause injury to the animals. The material facing the inside of all trailers must be strong enough so that the animals cannot push their hooves through the side. Final approval of tractor-trailers and stock trailers used to transport animals shall be held by the COR/PI.

5. Floors of tractor-trailers, stock trailers and loading chutes shall be covered and maintained with wood shavings to prevent the animals from slipping as much as possible during transport.

6. Animals to be loaded and transported in any trailer shall be as directed by the COR/PI and may include limitations on numbers according to age, size, sex, temperament and animal condition. The following minimum square feet per animal shall be allowed in all trailers:

   11 square feet per adult horse (1.4 linear foot in an 8 foot wide trailer);
   8 square feet per adult burro (1.0 linear foot in an 8 foot wide trailer);
   6 square feet per horse foal (.75 linear foot in an 8 foot wide trailer);
   4 square feet per burro foal (.50 linear feet in an 8 foot wide trailer).

7. The COR/PI shall consider the condition and size of the animals, weather conditions, distance to be transported, or other factors when planning for the movement of captured animals. The COR/PI shall provide for any brand and/or inspection services required for the captured animals.

8. If the COR/PI determines that dust conditions are such that the animals could be endangered during transportation, the Contractor will be instructed to adjust speed.

D. Safety and Communications

1. The Contractor shall have the means to communicate with the COR/PI and all contractor personnel engaged in the capture of wild horses utilizing a VHF/FM Transceiver or VHF/FM portable Two-Way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.

   a. The proper operation, service and maintenance of all contractor furnished property is the responsibility of the Contractor. The BLM reserves the right to remove from service any contractor personnel or contractor furnished equipment which, in the opinion of the contracting officer or COR/PI violate contract rules, are unsafe or otherwise unsatisfactory. In this event, the Contractor will be notified in writing to furnish replacement personnel or equipment within 48 hours of notification. All such replacements must be approved in

advance of operation by the Contracting Officer or his/her representative.

b. The Contractor shall obtain the necessary FCC licenses for the radio system

c. All accidents occurring during the performance of any task order shall be immediately reported to the COR/PI.

2. Should the contractor choose to utilize a helicopter the following will apply:

a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located.

b. Fueling operations shall not take place within 1,000 feet of animals.

G. Site Clearances

No personnel working at gather sites may excavate, remove, damage, or otherwise alter or deface or attempt to excavate, remove, damage or otherwise alter or deface any archaeological resource located on public lands or Indian lands.

Prior to setting up a trap or temporary holding facility, BLM will conduct all necessary clearances (archaeological, T&E, etc). All proposed site(s) must be inspected by a government archaeologist. Once archaeological clearance has been obtained, the trap or temporary holding facility may be set up. Said clearance shall be arranged for by the COR, PI, or other BLM employees.

Gather sites and temporary holding facilities would not be constructed on wetlands or riparian zones.

H. Animal Characteristics and Behavior

Releases of wild horses would be near available water. If the area is new to them, a short-term adjustment period may be required while the wild horses become familiar with the new area.

I. Public Participation

Opportunities for public viewing (i.e. media, interested public) of gather operations will be made available to the extent possible; however, the primary considerations will be to protect the health, safety and welfare of the animals being gathered and the personnel involved. The public must adhere to guidance from the on-site BLM representative. It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only authorized BLM personnel or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at anytime or for any reason during BLM operations.

J. Responsibility and Lines of Communication

Contracting Officer's Representative/Project Inspector

John Axtell
Alan Shepherd

The Contracting Officer's Representatives (CORs) and the project inspectors (PIs) have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. The Stillwater and Sierra Front Assistant Field Managers for Resources and Stillwater and Sierra Front Field Managers will take an active role to ensure the appropriate lines of communication are established between the field, Field Offices, State Office, National Program Office, and BLM Holding Facility offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity, formal public contact and inquiries will be handled through the Assistant Field Managers for Renewable Resources and Field Office Public Affairs. These individuals will be the primary contact and will coordinate with the COR/PI on any inquiries.

The COR will coordinate with the contractor and the BLM Corrals to ensure animals are being transported from the capture site in a safe and humane manner and are arriving in good condition.

The contract specifications require humane treatment and care of the animals during removal operations. These specifications are designed to minimize the risk of injury and death during and after capture of the animals. The specifications will be vigorously enforced.

Should the Contractor show negligence and/or not perform according to contract stipulations, he will be issued written instructions, stop work orders, or defaulted.

APPENDIX C

WinEquus Population Modeling Results

Clan Alpine HMA:

Clan Alpine Growth Rate, No Action
Average Growth Rate in 10 Years

Lowest Trial	12.5
10th Percentile	17.0
25th Percentile	18.1
Median Trial	19.3
75th Percentile	20.6
90th Percentile	22.2
Highest Trial	23.3

Clan Alpine Population Sizes in 11 Years*. No Action Alternative

	Minimum	Average	Maximum
Lowest Trial	717	1503	2614
10th Percentile	743	1858	3750
25th Percentile	754	2060	4158
Median Trial	773	2236	4620
75th Percentile	824	2472	5340
90th Percentile	878	2766	6082
Highest Trial	1145	3411	7251

* 0 to 20+ year-old horses

Clan Alpine Average Growth Rate with Fertility Control
Average Growth Rate in 10 Years

Lowest Trial	-4.8
10th Percentile	3.1
25th Percentile	5.1
Median Trial	6.8
75th Percentile	8.1
90th Percentile	9.0
Highest Trial	9.9

Clan Alpine Population Size with Fertility Control over 10 years
Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	270	746	891
10th Percentile	603	866	1139
25th Percentile	681	902	1176
Median Trial	742	953	1235
75th Percentile	770	1001	1318
90th Percentile	808	1042	1393
Highest Trial	842	1107	1466

* 0 to 20+ year-old horses

Clan Alpine number of horses removed with fertility control
Totals in 11 Years*

	Gathered	Removed	Treated
Lowest Trial	2219	0	764
10th Percentile	2630	0	900
25th Percentile	2748	468	955
Median Trial	2880	522	1012
75th Percentile	3018	588	1084
90th Percentile	3190	630	1184
Highest Trial	3361	954	1432

* 0 to 20+ year-old horses

Pilot Mountain HMA:

Pilot Mountain No Action Alternative
Average Growth Rate in 10 Years,

Lowest Trial	15.7
10th Percentile	17.3
25th Percentile	18.2
Median Trial	19.7
75th Percentile	20.9
90th Percentile	22.0
Highest Trial	23.5

Pilot Mountain No Action Alternative Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	304	657	1338
10th Percentile	310	781	1570
25th Percentile	315	878	1791
Median Trial	325	942	2036
75th Percentile	348	1035	2274
90th Percentile	368	1111	2413
Highest Trial	401	1247	2883

* 0 to 20+ year-old horses

Pilot Mountain Fertility Control
Average Growth Rate in 10 Years

Lowest Trial	2.7
10th Percentile	4.4
25th Percentile	5.6
Median Trial	6.7
75th Percentile	7.8
90th Percentile	8.7
Highest Trial	11.1

Pilot Mountain Fertility Control
Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	303	368	444
10th Percentile	309	420	521
25th Percentile	315	444	570
Median Trial	324	481	644
75th Percentile	346	524	718
90th Percentile	365	553	785
Highest Trial	393	616	911

* 0 to 20+ year-old horses

Pilot Mountain Fertility Control, Number Gathered, Removed and Treated
Totals in 11 Years*

	Gathered	Removed	Treated
Lowest Trial	1068	0	434
10th Percentile	1226	0	534
25th Percentile	1296	0	561
Median Trial	1390	0	604
75th Percentile	1500	0	642
90th Percentile	1580	0	696
Highest Trial	1816	0	745

* 0 to 20+ year-old horses

Pine Nut HMA:

Pine Nut HMA No Action Alternative
Average Growth Rate in 10 Years

Lowest Trial	12.5
10th Percentile	16.6
25th Percentile	17.8
Median Trial	19.2
75th Percentile	21.0
90th Percentile	22.1
Highest Trial	23.4

Pine Nut HMA, No Action Alternative
Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	149	330	566
10th Percentile	154	390	742
25th Percentile	157	430	864
Median Trial	164	475	981
75th Percentile	174	507	1101
90th Percentile	183	561	1244
Highest Trial	233	739	1588

* 0 to 20+ year-old horses

Pine Nut HMA Fertility Control
Average Growth Rate in 10 Years

Lowest Trial	0.1
10th Percentile	3.8
25th Percentile	5.3
Median Trial	7.1
75th Percentile	8.5
90th Percentile	10.1
Highest Trial	13.3

Pine Nut HMA Fertility Control
Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	94	142	184
10th Percentile	125	167	210
25th Percentile	133	175	219
Median Trial	140	180	229
75th Percentile	146	189	242
90th Percentile	154	195	262
Highest Trial	165	213	303

* 0 to 20+ year-old horses

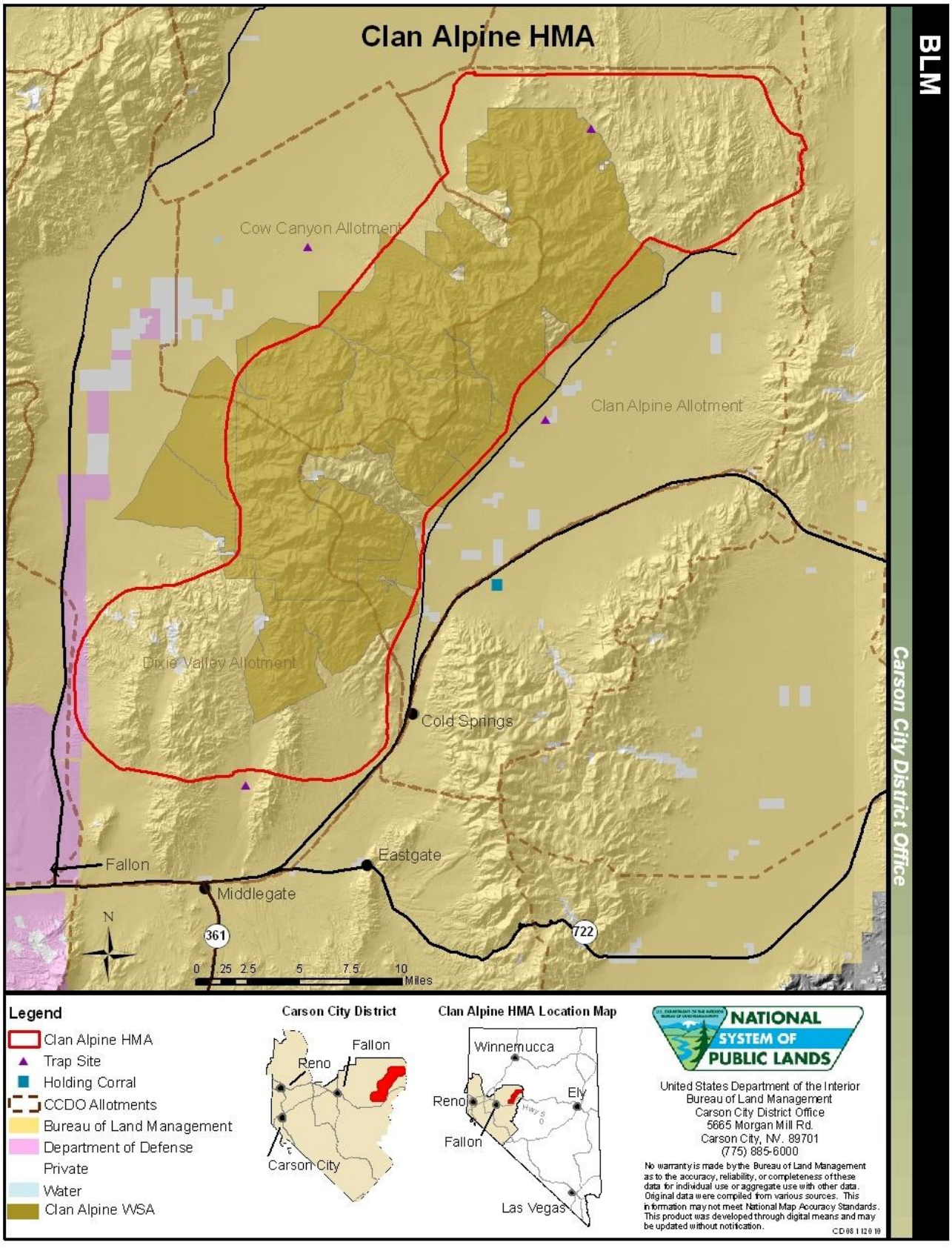
Pine Nut HMA Gathered Removed and Treated Fertility Control
Totals in 11 Years*

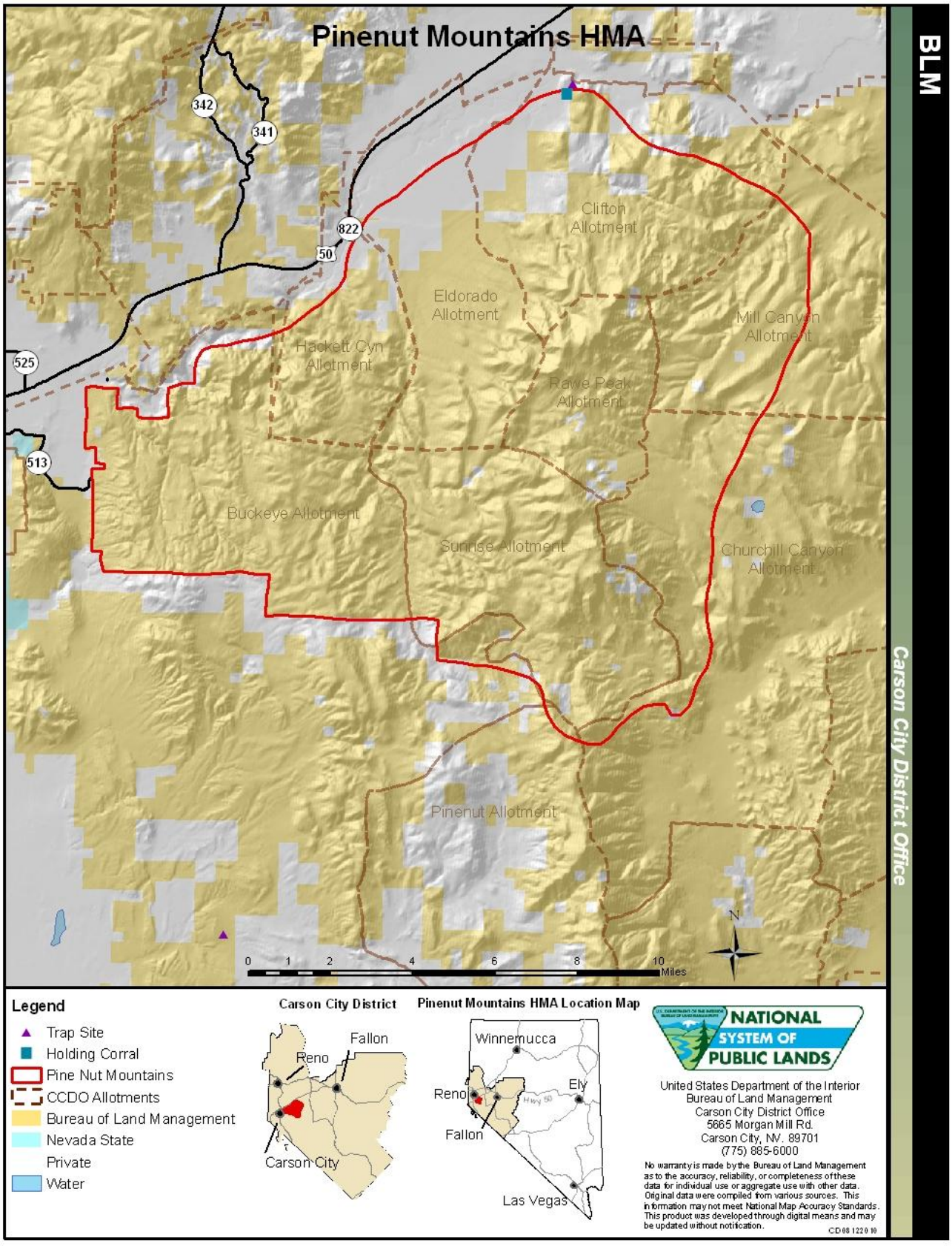
	Gathered	Removed	Treated
Lowest Trial	446	0	145
10th Percentile	508	75	163
25th Percentile	529	87	173
Median Trial	552	99	186
75th Percentile	580	128	200
90th Percentile	607	194	216
Highest Trial	699	259	240

* 0 to 20+ year-old horses

APPENDIX D

Herd Management Areas and Grazing Allotments – Maps


Clan Alpine HMA
BLM
Carson City District Office
Cow Canyon Allotment
Clan Alpine Allotment
Dixie Valley Allotment
Cold Springs
Eastgate
Fallon
Middlegate
361
722
N
0 1.25 2.5 5 7.5 10
Miles
Legend
Clan Alpine HMA
Trap Site
Holding Corral
CCDO Allotments
Bureau of Land Management
Department of Defense
Private
Water
Clan Alpine WSA
Carson City District
Fallon
Reno
Carson City
Clan Alpine HMA Location Map
Winnemucca
Reno
Ely
Fallon
Las Vegas
NATIONAL SYSTEM OF PUBLIC LANDS
United States Department of the Interior
Bureau of Land Management
Carson City District Office
5665 Morgan Mill Rd.
Carson City, NV. 89701
(775) 885-6000
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
CD08 1120 10


Pinenut Mountains HMA
342
341
822
50
525
513
Clifton Allotment
Eldorado Allotment
Mill Canyon Allotment
Hackett Cyn Allotment
Rawe Peak Allotment
Buckeye Allotment
Sunrise Allotment
Churchill Canyon Allotment
Pinenut Allotment
0 1 2 4 6 8 10 Miles
N
BLM
Carson City District Office
Legend
Trap Site
Holding Corral
Pine Nut Mountains
CCDO Allotments
Bureau of Land Management
Nevada State
Private
Water
Carson City District
Fallon
Reno
Carson City
Pinenut Mountains HMA Location Map
Winnemucca
Reno
Ely
Fallon
Las Vegas
NATIONAL SYSTEM OF PUBLIC LANDS
United States Department of the Interior
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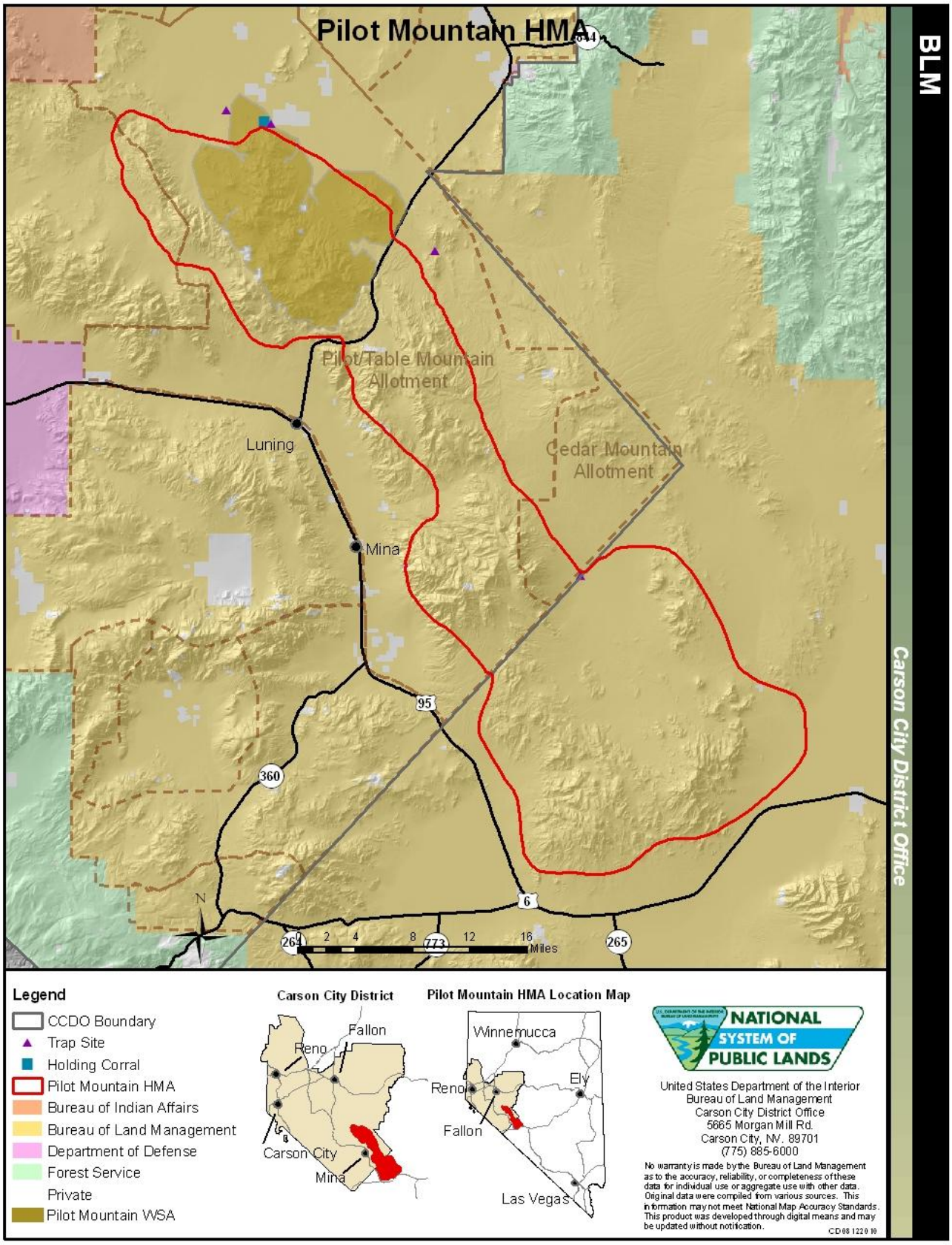
CD 08 122 0 10


Pilot Mountain HMA
BLM
Carson City District Office
Pilot/Table Mountain Allotment
Cedar Mountain Allotment
Luning
Mina
95
360
6
264
773
265
N
2 4 8 12 16 Miles
Legend
CCDO Boundary
Trap Site
Holding Corral
Pilot Mountain HMA
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Forest Service
Private
Pilot Mountain WSA
Carson City District
Reno
Fallon
Carson City
Mina
Pilot Mountain HMA Location Map
Winnemucca
Reno
Ely
Fallon
Las Vegas
NATIONAL SYSTEM OF PUBLIC LANDS
United States Department of the Interior
Bureau of Land Management
Carson City District Office
5665 Morgan Mill Rd.
Carson City, NV. 89701
(775) 885-6000
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CD 08 122010

APPENDIX E

List of Acronyms

AML	Appropriate Management Level
APHIS	Animal and Plant Inspection Service
AUM	Animal Unit Month
AVMA	American Veterinary Medical Association
BCS	Body Condition Score
BLM	Bureau of Land Management
CCDO	Carson City District Office
CFR	Code of Federal Regulations
COR	Contracting Officers Representative
CRMP	Carson City Field Office Consolidated Resource Management Plan
CSA	Cumulative Impact Study Area
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FCC	Federal Communications Commission
FLPMA	Federal Land Policy and Management Act
FMA	Freund's Modified Adjuvant
FMI	Freund's Incomplete Adjuvant
FMUD	Final Multiple Use Decision
FONSI	Finding of No Significant Impact
FY	Fiscal Year
GAO	Government Accountability Office
HA	Herd Area
HMA	Herd Management Area
HMAP	Herd Management Area Plan
ID	Interdisciplinary Team
IM	Instructional Memorandum
KFPM	Range Utilization Key Forage Plant Method
LTH	Long Term Holding
LTP	Long Term Pastures
MBTA	Migratory Bird Treaty Act
MFP	Management Framework Plan
MUD	Multiple Use Decision
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NPO	National Program Office
PI	Project Inspector
PMU	Population Management Unit
PZP-22	Porcine Zone Pellucida
RFS	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
S&G	Standards for Rangeland Health and Guidelines

SFFO	Sierra Front Field Office
SFO	Stillwater Field Office
SOP	Standard Operating Procedures
STH	Short Term Holding
SWReGAP	Southwest Regional GAP Analysis Project
T&E	Threatened and Endangered
TNR	Temporary Non-Renewable
USGS	United States Geological Service
WFRHBA	Wild Free-Roaming Horse and Burro Act

APPENDIX F

Persons, Groups, or Agencies Consulted

American Horse Protection Assoc.
Andrea Lococo
Animal Welfare Institute
Barbara Warner
Betty Kelly
Bonie Matton
Bently Family Limited
Carson City Board of Supervisors (Mayor Bob Crowell Chairman)
David & Jackie Holmgren
Don & Mary Shullanberger
Ed Goedhart (NV Assembly Dist. 36)
Elaine Brooks
Elnoma Reeves
Fallon Paiute-Shoshone Tribe
Gwen Washburn, Churchill County Commissioners, District 2
Jo Ann Hana
Joannem@
Joe Dahl
Joe Mortensen – Chair – District 4, Lyon County Commissioners
Katie Fite
Linebah@
Mark E. Amodei (State Senator)
Mandy McNitt
Micheal A. Olson, Chairman, Douglas County Commissioners
Micheal Brown Douglas County Manager
Mick & Claudia Casey
Mike McGrinness (State Senate)
Mustang1@
Mustangs@
Nevada Cattlemen's Association
Nevada Commission for the Preservation of Wild Horses
Nevada Department of Wildlife, Region I
Nevada Humane Society
Nevada State Division of Agriculture
Nevada State Clearinghouse
Nevada State Grazing Board
Office of Congressman Dean Heller
Office of Sen. Ensign
Office of Sen. Reid
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Pete Goicoechea (NV Assembly Dist. 35)
Ray Cormack
Rebecca Kunow
Resource Concepts Inc
Ricci Family LTD
Richard Bryant, Chairman, Mineral County Commissioners
Richard Huntsberger
Roberta Royle
The Mule Deer Foundation
Tom J Grady (NV Assembly Dist. 38)
U.S. Fish and Wildlife Service
Vicki Cohen
Walker River Paiute Tribe
Washoe Tribe of Nevada and California
Wild Horses Forever
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wildhorsedefenders@
Wildquest@
Yerington Paiute Tribe